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PERSONAL.

Mr. J. C. Munn, Secretary of the Pittsburg Bridge Co., has been elected Secretary and General Manager.

Mr. Louis J. Affelder, Jun. Am. Soc. C. E., has been appointed Principal Assistant Engineer of the Pittsburg Bridge Co.

Mr. Albert Heller has been promoted to be Chief Engineer of the Youngstown Bridge Co., vice Mr. Chas. E. Fowler, M. Am. Soc. C. E., resigned.

Mr. F. D. Anthony, Chief Engineer, New York & Ottawa R. R., has removed his office from Cornwall to Ottawa, Ont., where the principal offices of the road will be located hereafter.

Mr. Alex. Cox, Principal Assistant Engineer of the Imperial Railways of North China, is now passing through the United States on his way to England and Australia, on leave of absence.

Mr. H. E. Astley has been appointed Assistant Roadmaster of the Providence Division of the New York, New Haven & Hartford R. R., vice Mr. C. S. Shafter, resigned. Mr. Astley was formerly employed in the engineering department of the Pennsylvania R. R.

Mr. M. J. Martinez, M. Am. Soc. M. E., has received the appointment of resident agent at Havana, Cuba, for the Snow Steam Pump Works, of Buffalo, N. Y. The business will be conducted under the name of M. J. Martinez, Consulting and Contracting Engineer.

Mr. John W. Gates has resigned as President of the Illinois Steel Co., the resignation to take effect on Dec. 31, 1898. The Illinois Steel Co., is one of the corporations that make up the new Federal Steel Co., of which Judge Elbert H. Gary, of Chicago, Ill., is President.

Capt. Jos. H. Crawford, civil engineer, Pennsylvania R. R., has returned from Cuba, where he has been for the past two months assisting Col. Frank J. Hecker, Chief of the Division of Transportation of the United States, in looking after the transportation means of that country. In speaking of the railroads in that island, he states that they show that about $50,000 a mile was invested in them, No attempt is made to keep the roads in order. Grass has grown in the ditches and sidings, and the bridges are of obsolete design, and are not capable of bearing heavy traffic. The culverts are fairly good, being built of concrete.

Capt. J. Francis Le Baron, M. Am. Soc. C. E., Jacksonville, Fla., late of the 10th U. S. Volunteer Infantry, has just returned from Honduras, Central America, where he went last August as Chief Engineer of the American-Honduras Co., to make examinations and surveys of the bar and river Potuca, for the purpose of designing a system of jetties for deepening the channel through the bar. He is now engaged in the preparation of detailed plans and estimates, and work has been commenced at the harbor by the company and will be pushed to a rapid conclusion. The company has a valuable land grant of 250,000 acres, and exclusive rights of navigation of the river.

OBITUARY.

Mr. Alfred Stephen Adams, Superintendent of the Hyde Park Water Co., of Hyde Park, Mass., died Dec. 15, at the age of 73 years.

Mr. Najah Taylor, Superintendent of the Brooklyn Polytechnic Institute, died in Brooklyn, N. Y., on Dec. 16, at the age of 53 years.

Mr. James Duane Wheeler, at one time a prominent railway contractor, died at St. Paul, Minn., on Dec. 11. Mr. Wheeler was born in Massachusetts in 1820.

Mr. John E. Wooten, at one time General Manager of the Philadelphia & Reading R. R., and well known as the inventor of the Wooten firebox for locomotives, died in Philadelphia, Pa., on Dec. 16, aged 76 years.

Mr. Charles E. Leary died in New York city on Dec. 13, after a long illness. At the close of the Civil War he was a member of the firm of Ravanel & Co., of Charleston, S. C., and built a large number of steamships, operating a line of vessels from New York to Charleston, and another from New York to Savannah. The line was afterward extended from Charleston to Fernandina, Fla. Mr. Leary was also active in marine insurance, being connected with the National Lloyds Co., of New York. He was for some years Vice-President of the Mutual Gas Light Co., of the same city.

Mr. Charles G. Lundborg died in New York city, on Dec. 3, at the age of 74 years. Mr. Lundborg was born in Stockholm, Sweden, and was an officer in the Swedish navy before coming to this country. He gained a reputation in marine circles through an unsuccessful attempt to raise the sunken Russian vessels of Sebastopol during the Crimean war, and turned his attention to naval architecture, in which work he continued until the sickness preceding his death.

Ex-U. S. Senator Calvin Stewart Brice, prominently interested in railway and other enterprises, died suddenly at his residence in New York, of pneumonia, on Dec. 15. Mr. Brice was born in Denmark, O., on Sept. 17, 1845, and was the son of a Presbyterian clergyman. He graduated in 1863 from the Miami University, at Oxford, O., but in the meantime had served in the army; in 1864 he was again in the field with the 23d Army Corps, and was appointed a Lieutenant-Colonel. He took the law course at Michigan University in 1865, and practiced law at Lima, O. Here he became interested in the affairs of the old Lake Erie & Louisville Railroad Co., and was so successful that he later undertook the construction of the Nickel Plate system in opposition to the Lake Shore. At the time of his death he was President of the Lake Erie & Western R. R., and the Cleveland, Akron & Columbus Ry., was Vice-President of the Duluth, South Shore & Atlantic Ry. He was also a director of the Chicago, Indianapolis & Louisville Ry., of the Pacific Mail Steamship Co., the Welsbach Commercial Co., and the Chase National Bank. He was also largely interested in the American China Development Co., which lately secured a concession to build a railway from Hankow to Canton.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

CIVIL ENGINEERS' CLUB OF CLEVELAND.
Dec. 27. Secy., Wm. H. Searles, Case Library Bldg., Cleveland.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS
Dec. 28. Secy., Ralph W. Pope, 26 Cortlandt St., New York city.

ENGINEERING SOCIETY OF WESTERN NEW YORK.
Jan. 2. Secy., H. J. March, Library Bldg., Buffalo, N. Y.

CIVIL ENGINEERS' SOCIETY OF ST. PAUL.
Jan. 2. Secy., C. L. Annan, City Engineer's Office, St. Paul, Minn.

FRANKLIN INSTITUTE.
Jan. 3. "Methods for the Examination of Explosives," Dr. W. J. Williams. Jan. 17. "The Clarification and Purification of Municipal Water Supplies," Mr. Allen Hazen. Jan. 20. "This Country of Ours," John Birkinbine. Secy., Wm. H. Wahl, 15 South 7th St., Philadelphia, Pa.

WESTERN SOCIETY OF ENGINEERS.
Jan. 3. Annual meeting. Secy., N. L. Litten, Monadnock Block, Chicago, Ill.

FOUNDRYMEN'S ASSOCIATION, PHILADELPHIA.
Jan. 4. Secy., Howard Evans, Pier 45, Delaware Ave., Philadelphia, Pa.

ENGINEERS' CLUB OF ST. LOUIS.
Jan. 4. Secy., Richard McCulloch, 2401 N. Spring Ave., St. Louis, Mo.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
Jan. 4. Secy., C. W. Hunt, 220 West 57th St., New York city.

BROOKLYN INSTITUTE OF ARTS AND SCIENCES.
Jan. 6. "The Electro-Metallurgy of Copper," John B.F. Hereschoff. Secy., Henry I. Weed, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.

CHICAGO ELECTRICAL ASSOCIATION.
Jan. 6. "Telephone Engineering: Some Problems, Solved and Unsolved," S. G. McMeen. Secy., J. R. Cravath, 825 Monadnock Block, Chicago, Ill.

THE ENGINEERS' CLUB OF PHILADELPHIA.
Jan. 7. Secy., L. F. Rondinella, 1122 Girard St., Philadelphia, Pa.

ENGINEERS' CLUB OF COLUMBUS.
Jan. 7. Secy., H. M. Gates, 12½ North High St., Columbus, O.

THE LOUISIANA ENGINEERING SOCIETY.
Jan. 9. Secy., J. F. Coleman, 712 Union St., New Orleans, La.

ENGINEERS' CLUB OF KANSAS CITY.
Jan. 9. Secy., F. W. Tuttle, Baird Bldg., Kansas City, Mo.

DENVER SOCIETY OF CIVIL ENGINEERS.
Jan. 10. Secy., W. B. Lawson, 38 Jacobson Bldg., Denver, Col.

NORTHWEST RAILWAY CLUB.
Jan. 10. Secy., T. A. Foque, Soo Line, Minneapolis, Minn.

NEW ENGLAND RAILWAY CLUB.
Jan. 10. Secy., Edw. L. Janes, P. O. Box 1158, Boston, Mass.

CANADIAN SOCIETY OF CIVIL ENGINEERS.
Jan. 12. Annual meeting. Secy., C. A. McNab, 112 Mansfield St., Montreal, Can.

ENGINEERING ASSOCIATION OF THE SOUTH.
Jan. 12. Secy., C. B. Wilson, 1000 Broad St., Nashville, Tenn.

CENTRAL RAILWAY CLUB.
Jan. 13. Secy., H. D. Vought, 114 Fifth Ave., New York city.

ST. LOUIS RAILWAY CLUB.
Jan. 13. Secy., H. H. Roberts, 511 Commercial Bldg., St. Louis, Mo.

SCRANTON ENGINEERS' CLUB.
Jan. 14. Annual meeting. Secy., F. E. Pratt, 730 Madison Ave., Scranton, Pa.

MONTANA SOCIETY OF ENGINEERS.
Jan. 14. Secy., A. S. Hovey, National Bank Bldg., Helena, Mont.

AMERICAN INVENTORS' AND MANUFACTURERS' ASSOCIATION.
Jan. 15. Annual meeting, Washington, D. C. Secy., Arthur Steuart, Washington Loan and Trust Bldg., Washington, D. C.

ENGINEERS' AND ARCHITECTS' CLUB OF LOUISVILLE.
Jan. 16. Secy., Marshall Morris, 16 Norton Bldg., Louisville, Ky.

TECHNICAL CLUB OF OMAHA.
Jan. 16. Secy., J. Harry Lawrie, Omaha, Neb.

ENGINEERS' CLUB OF MINNEAPOLIS.
Jan. 16. Secy., H. E. Smith, 1020 S. E. 14th St., Minneapolis, Minn.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA
Jan. 17. Secy., R. A. Fessenden, 410 Penn Ave., Pittsburg, Pa.

WESTERN RAILWAY CLUB.
Jan. 17. Secy., F. M. Whyte, 225 Dearborn St., Chicago, Ill.

BOSTON SOCIETY OF CIVIL ENGINEERS.
Jan. 18. Annual meeting. Secy., S. E. Tinkham, City Hall, Boston, Mass.

WESTERN FOUNDRYMEN'S ASSOCIATION.
Jan. 18. Secy., B. M. Gardner, 1522 Monadnock Block, Chicago, Ill.

NEW YORK RAILROAD CLUB.
Jan. 19. Secy., W. W. Wheatley, 168 Montague St., Brooklyn, N. Y.

ENGINEERS' CLUB OF CINCINNATI.
Jan. 19. Secy., J. F. Wilson, P. O. Box 333, Cincinnati, O.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.
Jan. 19. Secy., F. A. Charpiot, P. O. Box 13, Savannah, Ga.

THE WEST VIRGINIA SOCIETY OF CIVIL ENGINEERS AND ARCHITECTS.
Jan. 19-20. Annual meeting, Charleston, W. Va. Secy., W. Steenbergen, Point Pleasant, W. Va.

NORTHWESTERN ELECTRICAL ASSOCIATION.
Jan. 19-21. Semi-annual meeting, Milwaukee, Wis. Secy., Thos. R. Mercein, 511 Montgomery Bldg., Milwaukee, Wis.

TECHNICAL SOCIETY OF THE PACIFIC COAST.
Jan. 20. Annual meeting. Secy., O. Von Geldern, 819 Market St., San Francisco, Cal.

ROCHESTER ENGINEERING SOCIETY.
Jan. 20. Secy., John F. Skinner, Reynolds Library Bldg., Rochester, N. Y.

THE DETROIT ENGINEERING SOCIETY.
Jan. 20. Secy, Henry Goldmark, Wayne Co., Sav. Bank Building, Detroit, Mich.

NATIONAL ASSOCIATION OF MANUFACTURERS.
Jan. 24-26. Annual convention, Cincinnati, O. Secy., E. P. Wilson, Room A, Chamber of Commerce, Cincinnati, O.

INDIANA ENGINEERING SOCIETY.
Jan. 24-26. Annual meeting, Indianapolis, Ind. Secy., J. B. Nelson, 61 Baldwin Block, Indianapolis, Ind.

MICHIGAN ENGINEERING SOCIETY.
Jan. 24-26. Annual meeting, Lansing, Mich. Secy., F. Hodgman, Climax, Mich.

ILLINOIS SOCIETY OF ENGINEERS AND SURVEYORS.
Jan. 25-27. Annual meeting, Champaign, Ill. Secy., Jacob A. Harman, Peoria, Ill.

AMERICAN CHEMICAL SOCIETY.—The 18th annual meeting of this society will be held Dec. 27-28, at the Chemists' Club House, 108 W. 55th St., New York city.

ROCHESTER ENGINEERING SOCIETY.—The annual meeting and the meeting for the election of officers was held on Dec. 16. The paper of the evening, on "Topographic Methods of the U. S. Geological Survey," was presented by Mr. Warner W. Gilbert.

ENGINEERS' AND ARCHITECTS' ASSOCIATION OF SOUTHERN CALIFORNIA.—This association enjoyed an excursion on Dec. 16 to the Santa Ana Canyon, where the plant of the Redlands Electric Co. was inspected. The company furnished transportation and hotel accommodations for the visiting members.

THE CIVIL ENGINEERS' CLUB OF CLEVELAND.—The regular monthly meeting was held Dec. 13. A committee of three was appointed to consider the feasibility of renting new and better quarters for the club.

Mr. Edwin L. Thurston read a paper on "The Nature and History of Patent Rights." W. H. Searles, Secy.

NATIONAL BOARD OF TRADE.—The 29th annual meeting of this commercial association was held in Washington, D. C., on Dec. 13. The National Board of Trade was organized in 1868, and holds yearly meetings for the consideration of ways and means of securing unity and harmony of action in reference to commercial and financial matters of the country as a whole.

Committees were appointed on the following subjects: Banking and Currency; War Revenue Taxation; Interstate Commerce and Pooling; Interoceanic Canal; Postal Matters; American Merchant Marine; Reciprocity and American Trade; Inland Waterways; Department of Commerce.

The matter of protection and preservation of timber lands, with reference to the maintenance of sources of supply, and the influence of forest lands upon climatic conditions, was considered, and a resolution urging the various state legislatures to enact laws with this object in view was adopted.

A resolution favoring irrigation, storage reservoirs and means for increasing the agricultural products of arid sections of the country, all under the direction of United States authorities, was adopted.

AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS.—The following is the list of nominations for officers of this Society for 1899:

President—Henry Adams, Washington, D. C.; J. H. Kinealy, St. Louis, Mo. First Vice-President—D. M. Quay, Chicago, Ill.; H. D. Crane, Cincinnati, O. Second Vice-President—A. E. Kenrick, Brookline, Mass.; John A. Fish, Boston, Mass. Third Vice-President—F. A. Williams, New York; A. C. Mott, Philadelphia, Pa. Secretary—W. M. Mackay, New York; L. B. Sherman, New York. Treasurer—Judson A. Goodrich, New York; J. J. Blackmore, New York. Board of Managers—W. F. Wolfe, New York; S. A. Jellett, New York; Henry C. Meyer, Jr., New York; U. G. Scollay, Brooklyn, N. Y.; B. H. Carpenter, Wilkesbarre, Pa.; John D. Hibbard, Chicago, Ill.; A. A. Cary, New York; J. A. Connolly, New York; Thomas Barwick, New York; W. A. Russell, New York. Council—R. C. Carpenter, Ithaca, N.Y.; W. McMannis, New York; W. S. Hadaway, Jr., New York; John Gormly, Philadelphia, Pa.; D. M. Nesbit, London, Eng.; W. H. Bryan, St. Louis,

Mo.; B. F. Stangland, New York; T. J. Waters, Chicago, Ill.; George Mehring, Chicago, Ill.; F. W. Foster, Boston, Mass.

NEW YORK ELECTRICAL SOCIETY.—The 192d meeting of this society was held on Dec. 14. The principal address of the evening was on "Ideas Underlying the Organization of the Volunteer Engineer Corps; the Work Accomplished by it in Porto Rico and the Opportunity for Further Usefulness," by Col. Eugene Griffin, Colonel of the First Regiment, U. S. Volunteer Engineers, and also First Vice-President of the General Electric Co. The topic, "Electrical and Engineering Work in the Navy During the War," was discussed by Mr. F. W. Roller, late Chief Engineer of U. S. S. "Nashville," who divided all electrical devices used on shipboard into two classes, the sucessful and the unsuccessful. Annunciators, range finders and various indicating and firing appliances apparently failed completely. On the other hand, incandescent lamps, motors and search lights proved of the greatest value. The failure of the lighter devices was attributed to defective design or wrong principle, or they could not be adapted to the conditions that obtained on board a ship of war. The range finder, for instance, was utterly valueless and was not used during the war. Elevations were found on the vessels by means of test shots with 6-pounders. The electrical firing apparatus was uncertain and unsatisfactory. The indicating apparatus was too delicate and complicated to stand the shocks which necessarily come on a warship, and it was continually getting out of order. Mr. Roller then read a brief paper on the same subject by Mr. W. D. Weaver, Editor of the "American Electrician," and late Chief Engineer of U. S. S. "Glacier," which strongly recommended the substitution of electricity for steam for operating all auxiliary apparatus on shipboard.

Capt. Zalinski, well known as the inventor of the dynamite gun that bears his name, spoke briefly of the work of the "Vesuvius" during the war.

LOUISIANA ENGINEERING SOCIETY.—The regular meeting of this society was held on Dec. 12. The paper of the evening was the "History of Street Pavements in New Orleans," by Mr. A. C. Bell, City Engineer.

The paper opened with a description of the site of New Orleans and a sketch of the history of the city. This was followed by an account of the development of street paving and improved sidewalks. In August, 1898, the character and mileage of street pavements in New Orleans was as follows, the estimated unit cost being given in the last column:

Material.	Miles.	Estimated cost per sq. yd.
Plank	40.64	*
Cobble-stone	40.49	2.00
Square block	26.14	5.00
Belgian block	2.32	4.25
Vitrified brick	5.83	2.50
Asphalt	11.98	3.10
Wood block	0.06	3.40
Shell	21.83	1.00
Gravel	42.55	1.50
Chert	2.78	1.75
Total	194.62	....

*$16 per M. ft. B. M.

The total mileage of streets open to use is 700, of which only about 18% have been improved.

Mr. Bell recommends Belgian blocks, asphalt and chert for heavy, medium and light traffic, respectively. The Belgian blocks are bedded in 2 ins. of sand on 6 ins. of concrete, the latter being placed on a tamped or rolled earth surface. The blocks are rammed or rolled, then their joints are partly filled with fine gravel and finally with pitch. The blocks are of granite, 4 × 10 ins., 5 ins. deep. The asphalt has the same kind of foundation as the block. On the concrete is laid a 1½-in. binder, and on this is placed the 2-in. wearing surface of asphalt. Chert roads are constructed as follows: After proper excavation the earth is rolled or tamped and 1 × 12-in. cypress boards laid on it. The first layer of chert is then spread to a depth of 6 ins., sprinkled and rolled. Two 3-in. layers, sprinkled and rolled, follow in succession, the last layer being worked until a compact, uniform surface is obtained.

NEW PUBLICATIONS.

AMERICAN WATER-WORKS ASSOCIATION.—Proceedings of the Eighteenth Annual Meeting, Held at Buffalo, N. Y., June 14 to 18, 1898. Peter Milne, Secretary, 12 John St., New York City. Paper; 6 × 9 ins.; pp. 208; illustrations. Price, $1.

Abstracts of the papers and discussions included in this report were published in our issue of June 23, 1898. Quite a wide range of subjects relating to water-works construction and operation are presented.

MISSOURI BUREAU OF LABOR STATISTICS AND INSPECTION.—Report for 1897-8. Compiled and Published by Arthur Roselle, Commissioner of Labor, Jefferson City, Mo. Paper; 6 × 9 ins.; pp. 284; tables.

A large part of this report is taken up with statistics of various manufacturing industries of the state and a general review of the industries and condition of each county. The bureau has recently established a free employment bureau.

U. S. GEOLOGICAL SURVEY.—Bulletin 150: The Educational Series of Rock Specimens Collected and Distributed by the U. S. Geological Survey. By J. S. Diller; pp. 400; illustrated. Bulletin 151: The Lower Cretaceous Gryphæas of the Texas Region. By Robt. T. Hill and T. Wayland Vaughan; pp. 66; illustrated. Bulletin 152: A Catalogue of the Cretaceous and Tertiary Plants of North America. By Frank Hall Knowlton; pp. 247. Bulletin 153: A Bibliographic Index of North American Carboniferous Invertebrates. By Stuart Weller; pp. 653. Bulletin 154: A Gazeteer of Kansas. By Henry Gannett; pp. 246; maps. Bulletin 155: Earthquakes in California in 1896 and 1897. By Charles D. Perrine; pp. 45. Bulletin 156: Bibliography and Index of North American Geology, Paleontology, Petrology and Mineralogy for 1897. By Fred Boughton Weeks; pp. 130; Washington, D. C.; paper; 9 × 6 ins.

PROCEEDINGS OF THE 18TH ANNUAL MEETING OF THE INDIANA ENGINEERING SOCIETY. Held at Indianapolis, Jan. 4, 5 and 6, 1898. James B. Nelson, Secretary, Indianapolis, Ind. Published by the Society. Paper; 9 × 6 ins.; pp. 170.

Contents: Officers and Committees: Roads and Road Building, J. F. O'Brien; Brick vs. Asphalt for Small Cities, Harry L. Weber; National Road and Wernwag Bridge over White River at Indianapolis, Ed. Hill; The Columbia City, Ind., Sewer System, C. G. H. Goss; Engineering Expert Testimony, Prof. R. L. Sackett; The Municipal Engineer, A. J. Hammond; Methods of Construction and Assessment for Tile Drains, J. W. Fawcett; The Business End of Civil Engineering, C. G. H. Goss; Some Difficulties Encountered in City Surveying, H. B. Fatout; Retracing Old Lines, J. W. Fawcett; How we Make Ditches in Jasper County, John Alter; Minimum Grades for Drain Tiles, Wm. M. Whitten; Relation of the Board of Health to the Engineer, Dr. J. N. Hurly; Cement Testing, John W. Dickinson; Summary of proceedings at annual meeting.

METRIC TABLES FOR THE TRANSIT MAN.—By H. H. Filley, M. Am. Soc. C. E., Kansas City, Mo. Paper; 4 × 6½ ins.; pp. 14. Unbound so as to slip in note book.

Mr. Filley has been engaged for 15 years or more in railway surveys in Mexico, where the metric system is used in all measurements. He found that the field books used were not properly arranged for that system; and that considerable time was lost, and errors crept into the work of reducing radii, tangents and externals from the foot to metric measures. He then made a set of tables covering these reductions, and added to them a collection of trigonometric and curve formulas and a condensed table of "chords to a radius of 1," for protracting. The radii are computed for 20 m. chords down to a radius of 100 m., and for 10 m., or a half-chain, for all curves of less than 100 m. radius. This provides for the use of short chords where most needed, and keeps the correction so small, in sharp curves, that it may be readily and mentally interpolated. Mr. Filley has had these tables stereotyped, and offers to mail copies without charge to any engineer who may have use for the tables, and who will write him at the address given above.

LIVERPOOL TRIALS OF MOTOR VEHICLES FOR HEAVY TRAFFIC, May 24 to 27, 1898, conducted by the Liverpool Centre of the Self-Propelling Traffic Association; President, the Right Honorable the Earl of Derby, K. G. Judges' Report. Edited by E. Shrapnell Smith. Liverpool: Winstanley & Watkins. Paper; 9¾ × 6 ins.; pp. 126; illustrated. 5 shillings. Address the Association at Royal Institution, Colquitt St., Liverpool, England.

This report gives the regulations and conditions for competition, the points considered by the judges, rules for ascertaining cost of working, the general arrangements, and the methods of keeping records. Then follow illustrated descriptions of the vehicles which took part in the trial, with details of mechanism, and the results in each case. While notes of this trial have already been published in this journal, some of the conclusions of the judges are interesting. The vehicles used were all propelled by steam. The judges concluded that they were well fitted for many trade purposes and could economically take the place of horses, and they were capable of hauling loads up to 4 tons 30 to 40 miles. But the volume of traffic between Liverpool and the manufacturing districts is too large and varied to be dealt with by any isolated scheme of motor wagon transport. Although the calculated cost per net ton-mile shows a saving on existing railway rates the judges do not consider that motor vehicles could successfully compete for traffic in opposition to reduced railway rates, except under exceptional circumstances. The severity of the service on common roads, at useful speed, is such as to involve, perhaps, greater cost for maintenance than was used in the trials. As to the vehicles themselves, the wheels and tires used, though efficient as carriers were all structurally inefficient as drivers; none of the vehicles were handled quite as well as was expected, though the general control was at least as good as with the best type of horse-drawn vehicles. The motors would climb hills better than horses. At least two speed gears, or an equivalent reserve of power, are essential to successful working on common roads with steep or even average gradients. The most onerous conditions, however, are those involved in the limitations of the "Locomotives on Highways Act," of 1896. Legislative relief is here required. The judges believe that the experience gained in this trial will tend to obviate some of the difficulties encountered and they propose new trials with eight months' previous notice to builders of motor vehicles.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3 1-2 x 6 ins.; 6 x 9 ins., and 9 x 12 ins.)

ROLLER BEARINGS.—Hyatt Roller Bearing Co., Harrison, N. J. Pamph.; 6 × 9 ins.; pp. 34.

This is an illustrated catalogue and price-list of the "Hyatt" flexible roller bearings. It is claimed that these bearings save from 25 to 60% of the work of overcoming the frictional resistance of ordinary bearings. The pamphlet contains records of tests made at the Franklin Institute, showing reductions of the coefficient of friction, as compared with solid roller bearings.

ORNAMENTAL IRONWORK.—The Winslow Bros. Co., Chicago, Ill. Paper; 7 × 6 ins.; pp. 12.

This pamphlet contains excellent half-tone engravings of specimens of the company's work in the way of grilles, elevator cars and enclosures, balustrades, railings, stairways, lamps, etc.

METALINED OR OILLESS BEARINGS. North American Metaline Co., 6 West Ave., Long Island City, N. Y. Small circulars and leaflets.

These circulars, besides describing "metaline" and its merits, give directions for inserting metaline plugs in bearings. Metalined bushings are largely used on loose pulleys, and instances are given of their running for eight years at 380 revolutions per minute.

ELECTRIC SUPPLIES.—General Catalogue No. 14.—Western Electrical Supply Co., St. Louis, Mo. Cloth; 7⅝ × 10⅝ ins.; pp. 754; illustrated.

This is a full general catalogue of the principal lines of standard electrical goods and appliances handled by the Western Electrical Supply Co.

The book is very complete and will make a useful addition to any engineer's library, particularly as a supplement giving discounts is included.

ENGINES AND DIRECT-CONNECTED GENERATORS.—B. F. Sturtevant Co., Boston, Mass. Pamph.; 8 × 10½ ins.; pp. 8.

This is an illustrated circular of the "Sturtevant Generating Sets," with automatic horizontal and upright engines, direct-connected to dynamos of various forms. A novelty is a "midget" set, which has a 2½ × 2-in. engine to run 1,000 revolutions per minute, with a 1,500-watt dynamo capable of furnishing current for 25 16-c. p. lights, the whole combination weighing only 400 lbs.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
Dec. 22.	Bridge superstructure, Lorain, O. Advertised, Eng. News, Nov. 10 and 17.		Nov. 10
Dec. 22.	Tunnel (500 ft.),	Santa Barbara, Cal.	Dec. 15
Dec. 22.	Park work,	New York, N. Y.	Dec. 15
Dec. 22.	Brick paving, Advertised, Eng. News Dec. 8 and 15.	Jacksonville, Fla.	Dec. 8
Dec. 22.	School bldg. improvements,	Jersey City.	Dec. 22
Dec. 22.	Breakwater block,	Miminegash, P. E. I.	Dec. 22
Dec. 22.	Paving, etc.,	Philadelphia, Pa.	Dec. 22
Dec. 23.	Bridge,	Santa Cruz, Cal.	Dec. 22
Dec. 23.	Repairing bridge,	Chehalis, Wash.	Dec. 22
Dec. 23.	Brick sewer,	Springfield, Mass.	Dec. 22
Dec. 23.	Armory building,	Whitehall, N. Y.	Dec. 15
Dec. 23.	Extending electric plant,	Boston, Mass.	Dec. 15
Dec. 23.	Police station,	New York, N. Y.	Dec. 15
Dec. 23.	Storehouse,	Brooklyn, N. Y.	Dec. 15
Dec. 23.	Police station,	Brooklyn, N. Y.	Dec. 15
Dec. 23.	Police station,	Long Island City, N. Y.	Dec. 15
Dec. 23.	Brick paving, grading, etc.,	Zanesville, O.	Dec. 15
Dec. 23.	Paving and grading,	St. Louis, Mo.	Dec. 15
Dec. 23.	Dredging,	New York, N. Y.	Dec. 15
Dec. 23.	Public building,	Liverpool, N. S.	Dec. 15
Dec. 23.	Wooden barrel sewer,	New York, N. Y.	Dec. 15
Dec. 23.	Light station, Advertised, Eng. News, Nov. 17 and 24.	Tompkinsville (S.I.), N.Y.	Nov. 17
Dec. 23.	Cement and seawall, Advertised, Eng. News, Dec. 1 to 22.	Fort Morgan, Ala.	Dec. 1
Dec. 23.	Auditorium,	Charleston, S. C.	Dec. 8
Dec. 24.	Court house work,	Milwaukee, Wis.	Dec. 15
Dec. 24.	Water-works,	Hawkins Point, Md.	Dec. 15
Dec. 26.	Pipe sewers,	South Bend, Ind.	Dec. 8
Dec. 26.	Electric lighting, Advertised, Engineering News, Dec. 8.	Waterloo, N. Y.	Dec. 8
Dec. 27.	Electric plant,	Woodsfield, O.	Dec. 8
Dec. 27.	Scow boat,	New York, N. Y.	Dec. 15
Dec. 27.	Electric wiring,	Paterson, N. J.	Dec. 15
Dec. 27.	Gas and electric fixtures,	Washington, D.C.	Dec. 15
Dec. 27.	Electric machinery,	Topeka, Kan.	Dec. 22
Dec. 27.	Asylum building,	New Bedford, Mass.	Dec. 22
Dec. 27.	School building repairs,	New York, N. Y.	Dec. 22
Dec. 27.	Removing garbage,	New Haven, Conn.	Dec. 22
Dec. 27.	Paving, curbing, etc., Advertised, Engineering News, Dec. 22.	Atlantic City, N.J.	Dec. 22
Dec. 27.	Barracks, etc.,	Hiltonhead, S. C.	Dec. 22
Dec. 27.	Water pipe,	Jersey City, N. J.	Dec. 22
Dec. 27.	Timber and planks,	Montreal, Que.	Dec. 22
Dec. 28.	Bridge work,	Brooklyn, N. Y.	Dec. 22
Dec. 28.	Sewer bonds,	Hackensack, N. J.	Dec. 22
Dec. 28.	Dredging, fill, lime, etc.,	Brooklyn, N. Y.	Dec. 22
Dec. 28.	Asphalt and granite paving,	New York.	Dec. 22
Dec. 28.	Paving,	Baltimore, Md.	Dec. 22
Dec. 28.	Electric light plants,	New York, N. Y.	Dec. 22
Dec. 28.	Cement,	Providence, R. I.	Dec. 22
Dec. 28.	Steel truss bridge (140 ft.),	Ogden, Utah.	Dec. 15
Dec. 28.	Cast-iron pipe sewer,	New York, N. Y.	Dec. 15
Dec. 28.	Steel bridge, Advertised, Eng. News, Dec. 1 to 15.	Norfolk, Va.	Dec. 1
Dec. 28.	Railway bridge, Advertised, Engineering News, Nov. 24.	Chicago, Ill.	Nov. 24
Dec. 29.	Street bonds,	Georgetown, Ky.	Dec. 8
Dec. 29.	Asphalt paving,	Louisville, Ky.	Dec. 22
Dec. 29.	Bridge superstructure,	Boston, Mass.	Dec. 22
Dec. 30.	Repairs to workhouse,	New York, N. Y.	Dec. 22
Dec. 30.	Station house repairs,	New York, N. Y.	Dec. 22
Dec. 30.	Towing garbage scows,	New York, N. Y.	Dec. 22
Dec. 30.	Scow,	New York, N. Y.	Dec. 22
Dec. 30.	Self-dumping cars (6),	New York, N. Y.	Dec. 22
Dec. 30.	Sewers,	East Cleveland, O.	Dec. 8
Dec. 31.	Plans for station, etc.,	Stockholm, Sweden.	June 23
Dec. 31.	Bridge work,	Plattsmouth, Neb.	Dec. 15
Dec. 31.	Steam boilers,	Alexandria, Egypt.	Dec. 15
Dec. 31.	Cleaning market grounds,	Cleveland, O.	Dec. 15
Dec. 31.	Electric lighting,	Eau Claire, Wis.	Dec. 22
Dec. 31.	Water bonds,	Bemidji, Minn.	Dec. 22
Dec. 31.	Road materials, etc.,	New York, N. Y.	Dec. 22
Dec. 31.	Wooden pier,	New York, N. Y.	Dec. 22
Jan. 1.	Electric lighting,	Pleasantville, O.	Dec. 22
Jan. 1.	City hall plant,	Bridgeport, Conn.	Aug. 18
Jan. 1.	Drawbridge,	Cathlamet, Wash.	Nov. 17
Jan. 1.	Water-works,	Pasadena, Cal.	Nov. 17
Jan. 1.	Electric plant,	Pasadena, Cal.	Dec. 1
Jan. 2.	Bridge, Advertised, Eng. News, Sept. 29 and Oct. 6.	Quebec, Que.	Sept. 20

Jan.	2.	Arc lighting, Vincennes, Ind.	Oct. 27
Jan.	2.	Storm sewer, etc., Hamilton, O.	Dec. 8
Jan.	2.	Bridge, Aspen, Colo.	Dec. 15
Jan.	2.	Sea water pmpg franchise, Santa Cruz, Cal.	Dec. 15
Jan.	2.	Cutting and logging, Cherokee County, N.C.	Dec. 22
Jan.	2.	Drainage ditch, Ponca, Neb.	Dec. 22
Jan.	2.	Water bonds, Stanberry, Mo.	Dec. 22
Jan.	3.	Bridge work, Nelson, Neb.	Dec. 15
Jan.	3.	Pipe sewers, Mount Vernon, N. Y.	Dec. 15
Jan.	3.	Sewers, Cincinnati, O.	Dec. 15
Jan.	3.	Church, Ashland, Ky.	Dec. 15
Jan.	3.	Court house, jail, etc., Balsam Lake, Wis.	Dec. 15
Jan.	3.	Steel bridge, Brookhaven, Miss.	Nov. 24
Jan.	3.	Water-works, Gaffney, S. C.	Dec. 1
Jan.	3.	Bath plans, Albany, N. Y.	Dec. 8
Jan.	4.	Library building, Owatonna, Minn.	Dec. 15
Jan.	4.	Bridge work for 1899, Denison, Ia.	Dec. 22
Jan.	4.	Drainage ditch (8,300 ft.), Burlington, Ia.	Dec. 22
Jan.	4.	Steamboat, Fort McHenry, Md.	Dec. 22
Jan.	5.	Library building, Cincinnati, O.	Dec. 22
Jan.	5.	Pile trestles (3), Sacramento, Cal.	Dec. 22
Jan.	5.	Water-works, Darlington, Okla.	Dec. 15
Jan.	5.	Macadam roads (17½ miles), Decatur, Ind.	Dec. 1
Jan.	6.	Water-gas plant, Johannesburg, So. Africa.	Oct. 27
Jan.	6.	Extension electric plnt, Johannesburg, S. Af.	Oct. 27
Jan.	7.	Gravel road, Valparaiso, Ind.	Dec. 8
Jan.	7.	Macadam road (10 miles), Cincinnati, O.	Dec. 22
Jan.	9.	School building, Wilmington, Del.	Dec. 8
Jan.	9.	Water supply, Bucharest, Roumania	Dec. 15
Jan.	9.	Excavating, paving, etc., Houston, Tex.	Dec. 15
		Advertised, Eng. News, Dec. 15 to Jan. 5.	
Jan.	10.	Portland cemt (12,000 bbls.), Duluth, Minn.	Dec. 15
		Advertised, Eng. News, Dec. 15 to Jan. 12.	
Jan.	10.	Pumping engine for dredge, Charleston, S. C.	Dec. 15
		Advertised, Eng. News, Dec. 15 to Jan. 12.	
Jan.	10.	Capitol building, Phoenix, Ariz.	Dec. 1
Jan.	10.	Sewer bonds ($50,000), Grass Valley, Cal.	Dec. 1
Jan.	10.	Bridge work for 1899, Hasungs, Neb.	Dec. 22
Jan.	10.	Jail building plans, Boone, Ia.	Dec. 22
Jan.	12.	Cement, St. Paul, Minn.	Dec. 15
		Advertised, Eng. News, Dec. 15 to Jan. 5.	
Jan.	12.	Power house, Annapolis, —d.	Dec. 22
Jan.	12.	Sea wall, Annapolis, Md.	Dec. 22
Jan.	14.	Park work and plans, Philadelphia, Pa.	Nov. 17
Jan.	14.	Steam tenders (3), St. Louis, Mo.	Dec. 22
Jan.	14.	Piles and stones, St. Louis, Mo.	Dec. 22
Jan.	15.	Sewers and drainage, Callao, Peru	Dec. 1
Jan.	15.	Street cleaning, Indianapolis, Ind.	Dec. 15
Jan.	16.	Sale of telephone franchise, Duluth, Minn.	Dec. 8
		Advertised, Eng. News, Dec. 8 to Jan. 12.	
Jan.	16.	Pipe sewers, Elizabeth, N. J.	Dec. 22
Jan.	17.	Bridge and plans, Binghamton, N. Y.	Dec. 22
		Advertised, Eng. News, Dec. 22 and 29.	
Jan.	18.	Court house plans, Mineola (L.I.), N. Y.	Dec. 22
Jan.	18.	Water-works, Winchester, Ind.	Dec. 22
Jan.	18.	Extending electric plant, Winchester, Ind.	Dec. 22
Jan.	18.	Sewers, Aiken, S. C.	Dec. 15
		Advertised, Eng. News, Dec. 15 and 22.	
Jan.	24.	Footway tunnel, London, England.	Nov. 10
Jan.	24.	Iron bridges (2), St. Thomas, Ont.	Dec. 22
		Advertised, Eng. News, Dec. 22 and 29.	
Feb.	1.	School building, Peoria, Ill.	Dec. 1
Feb.	2.	Electric lighting, New Orleans, La.	Nov. 3
Feb.	7.	Sale of canal, Annapolis, Md.	Dec. 1
Feb.	10.	Jail building, Keyser, W. Va.	Sept. 29
Feb.	13.	Water bonds, Reno, Nev.	Dec. 22
Mar.	15.	Electric r'y (23 miles), Shanghai, China.	Nov. 24
		Advertised, Eng. News, Nov. 17 to Dec. 8.	
Mar.	15.	Purchase of water-works, Belem, Brazil.	Dec. 1
Mar.	31.	Telephone concessions, Shanghai, China.	Nov. 24
		Advertised, Eng. News, Nov. 17 to Dec. 8.	
No date.		Artesian well, Victoria, Tex.	Dec. 22

RAILWAYS.

ALLEGHENY & WESTERN.—Reports state that the headings of the tunnel near Curwensville, Pa., on this extension of the Buffalo, Rochester & Pittsburg Ry., have been brought together. The tunnel is about 2,317 ft. long, 24 ft. high and 20 ft. wide. The excavating is expected to be completed before Dec. 25, and the work on constructing the arches will soon begin. The completion of the tunnel leaves only two extensive pieces of work to be done in that section. They are the Lyons cut, 104 ft. deep, between Curwensville and Adrian, and the Prenter cut, south of Curwensville, which is 40 ft. deep. It is not expected to complete the Lyons cut before early spring. Bennett, Talbott & Smith, Contractors, Greensburg, Pa.; J. M. Floesch, Ch. Engr., Kittanning, Pa.

AUSTRALIA.—Press reports state that bids are being received for supplying 32,180 tons of steel rails and 3,258 tons of fish plates to the railway commissioner of Victoria, at Melbourne, Australia. The Agent-General for Victoria, at London, England, can give particulars.

BALTIMORE & SOUTHERN.—Reports state that negotiations are pending for the immediate construction of this proposed railway to connect Baltimore, Md., and Drum Point, via Millersville. Considerable work has already been done under the charter of the Baltimore & Drum Point Ry. Co., and much of the right of way obtained. The principal promoters are said to be Edward Lauterbach, of New York, and Frank R. Biedler, of Baltimore.

BANGOR & PORTLAND.—Henry I. Hoffman, Ackermanville, Pa., is reported to have been awarded the contract for building a two-mile extension of this line, from Pen Argyle, Pa., to the American Bangor slate quarry, to cost about $11,000. C. Miller, Pres., Bangor, Pa.

CENTRAL VERMONT.—P. H. Fitzgerald, New London, Conn., has been awarded the contract for the construction of a spur track from the main line at Montville, to Palmertown, Pa. Work was to begin this week. The siding will be about 2½ miles in length, with a graded incline of 200 ft.; estimated cost, $100,000. D. Mackenzie, Division Supt., New London.

CLEARWATER SHORT LINE.—This company has filed articles of extension in Washington for a branch line from Ainsworth, in Walla Walla county, to the state line near the mouth of the Clearwater River, a distance of 135 miles, and for a branch from the main line at or near the junction of Potlach Creek and the Clearwater River, Nez Perces county, Idaho, to the main line of the Northern Pacific near Connell, Wash., 140 miles. C. S. Mellen, Pres., St. Paul, Minn.; Thomas Cooper, Resident Agt., Tacoma, Wash.

COAHUILA CENTRAL.—We are informed that C. E. Corn, Saltillo, Mexico, has the contract for grading and track-laying on this proposed line, from Saltillo to Trevino, a distance of 60 miles. A further extension to Sierra Majada, in the State of Chihuahua, is also projected. The maximum grade is 2% and the maximum curve, 8°. Additional contracts will be let after Jan. 15. S. J. Martin, Pres. of Coahuila Central Construction Co., Saltillo, Mex.; John C. McMynn, Vice-Pres., The Rookery, Chicago; W. E. Dorwin, Gen. Mgr., 304 Tacoma Bldg., Chicago, Ill.; S. Potts, Ch. Engr., Saltillo.

COLUMBIA & WESTERN.—Steel is now being laid on the Robson-Picton branch of this new railway in British Columbia at the rate of about 2,000 ft. a day, beginning at West Robson. Three tunnels have been finished between Robson and Brooklyn, respectively 246 ft., 350 ft. and 700 ft. in length, but a number of trestles and culverts still remain to be built. Most of the grading has been completed, and when several large cuts shall have been made work will begin on a 3,000 ft. tunnel, four miles west of Brooklyn. Mann, Foley Bros. & Larson are the general contractors for this 105-mile piece of work.

COLORADO & SOUTHERN.—This company, which has obtained control of the reorganized Gulf and South Park lines, has been incorporated in Colorado, with a capital stock of $48,000,000. The incorporators are: E. E. Whitte, Alexis D. Parker, John E. Macbeth, Thomas E. Dunaway and B. T. Winchell.

GUTHRIE, LANGSTON & DOWNS.—This company has been organized at Guthrie, Okla., according to reports, to construct a railway from Langston to Guthrie, thence southward to Downs, Okla., a distance of about 40 miles. The capital stock is $2,000,000, and the line is expected to serve as a connecting link for some proposed through line.

HANNIBAL & ST. JOSEPH.—Reports state that plans and specifications are being prepared for the construction of a new terminal system for the Hannibal & St. Joseph R. R. and the Kansas City, St. Joseph & Council Bluffs R. R. in Kansas City, Mo.; estimated cost, about $200,000. A new freight station will also be built at 12th and Mulberry Sts. L. F. Goodale, Ch. Engr., St. Joseph, Mo.

LITCHFIELD, CARROLLTON & WESTERN.—It is announced that Johnson Bros. & Faught, Contractors, St. Elmo, Ill., who purchased this line on foreclosure, will probably extend it from Litchfield, Ill., east to St. Elmo, via Coffeen, about 45 miles, and from Columbiana, Ill., to Quincy, about 60 miles. The present route is from Columbiana to Litchfield, via Carrollton, 58 miles.

LOUISIANA & ARKANSAS.—This company has filed amended articles of incorporation in Arkansas, in order to increase its capital stock from $150,000 to $300,000. It is intended to construct an additional line from a point on the Vicksburg, Shreveport & Pacific R. R., at or near Sibley, La., in a southwesterly direction, through the parishes of Webster, Bienville, Natchitoches and Winn, and unite with a line in operation from Minden to Sibley. J. A. Buchanan, Gen. Mgr., Stamps, Ark.

MINNESOTA.—The Empire Lumber Co., of Winona, Minn., and other logging firms are said to contemplate the construction of a line of railway from Dedham into the Black River region for the purpose of hauling logs to the St. Croix, a distance of from 12 to 20 miles. It is thought that work will be commenced next spring.

NEWFOUNDLAND.—Reports state that Joseph Chamberlain, English Colonial Secy., has refused to disallow the railway contract made by this colony with W. G. Reid, 30 St. John St., Montreal, Que.

PENNSYLVANIA.—Reports state that Ora L. Nichols, County Surveyor, Coudersport, Pa., has been making surveys for the Lackawanna Lumber Co. for a railway to be built from Mina, Pa., to the top of "Lookout Mountain," for timber purposes. Many switch-backs will be needed as the grade is in some places 200 ft. to the mile. In the spring, an extension will probably be built to Austin and the line made permanent.

PITTSBURG & ALLEGHENY RIVER.—This company was incorporated in Pennsylvania, Dec. 15, with a capital stock of $30,000, to build a steam railway from 32d St., in Pittsburg, to Herr's Island, in Allegheny, Pa. The incorporators are: J. H. Park, Pres.; C. E. Clapp and John A. Sutton, all of Pittsburg; D. E. Park, Allegheny; W. G. Park, New York.

SAUGATUCK & SOUTH HAVEN.—This company was incorporated in Michigan, Dec. 16, with a capital stock of $176,000, of which $11,000 is subscribed and $550 paid in, to build a standard gage railway between the towns named. The incorporators are: A. A. Patterson, Jr., D. H. Patterson, J. W. Johnston, S. H. Kelly, Benton Harbor, Mich.; H. T. Leslie, Chicago; W. A. Patterson, Saratoga, N. Y.; F. McOmber, Berrien Springs, Mich.

TENNESSEE CENTRAL.—M. Schwerin, Vice. Pres. and Secy., Crossville, Tenn., informs us that the contract for the construction of this railway has been awarded to Naugle, Holcomb & Co., 355 Dearborn St., Chicago, Ill. The contractors agree to complete the first 60 miles from Harriman, Tenn., on the line of the Cincinnati Southern, via Rockwood, to Monterey, Tenn., in about 8 months. From Rockwood the road begins to ascend the Waldens Ridge to the top of the Cumberland Plateau, which is about 2,000 ft. above sea level; it will pass the Roane Iron Works on a steel viaduct of considerable height, and three miles from Rockwood the line will pass through a long tunnel; in fact, the entire line is cut through solid rock in many places at a very heavy outlay of labor and of dynamite. The line also passes through the celebrated Crab Orchard Gap, which is the only pass for a railway from Rockwood to Crossville, and from thence to Crossville a fairly level country is traversed. The distance from Harriman to Crossville is about 34 miles. From Crossville the company intends to run branch lines to the different coal banks west of Crossville. The coal seams will average nearly 6 ft., and has been declared by Mr. Fulton, a coal expert, of Johnstown, Pa., to be first class for cooking purposes. The coal fields cover 25 square miles, and there is also a plentiful supply of fine limestone, building stone, fire clay, and a good indication of coal oil and iron ore; also plenty of timber. The climate is good. Jere. Baxter, Pres., Nashville, Tenn.; Geo. T. Bigelow, Ch. Engr., Rockwood, Tenn.; George Westeon, Ch. Engr. of the construction company; temporary office, Rockwood, Tenn. The officers of the Central Land & Coal Co. are: W. F. Niedringhaus, Pres.. St. Louis, Mo.; M. Schwerin, Vice-Pres. and Secy., Crossville, Tenn.; W. Niedringhaus, Treas., St. Louis. The company is a close one, for none of the stock is on the market. The grade of the railway from Harriman to Monterey is more than half finished, and the ties for nearly 20 miles are also on the line. The capitalists who are behind the project have ample means to finish the entire work from Harriman to Clarksville, Tenn., a distance of 220 miles. By the opening up of this new line the distance from New York to Nashville by the Southern R. R., via Knoxville and Harriman, will be shortened fully 100 miles, saving the distance from Knoxville to Chattanooga.

STREET AND ELECTRIC RAILWAYS.

HUDSON, MASS.—The selectmen have granted a franchise to the Clinton & Hudson St. Ry. Co. to build and operate an electric railway through this town.

MILFORD, MASS.—It is reported that the Pittsfield St. Ry. Co. contemplates the extension of its lines to Peck's and Onota. J. Tucker, Pres.

ANSONIA, CONN.—The Seymour Electric Ry. Co. has been organized in Ansonia, which proposes to apply for a charter granting it permission to build a trolley line from this city to Seymour, and thence to Beacon Falls, a distance of 10 miles. Connections are to be made with the Derby St. Ry. Co., H. H. Wood, Pres., of Derby, and the Waterbury Traction Co.'s line, which is expected to be extended from its present terminus at Naugatuck to Beacon Falls.

HARTFORD, CONN.—W. E. Goodwin, of Elmwood, Conn., and Fred C. Rockwell, of Hartford, are said to be the promotors of a project to build an electric line from Hartford to New Britain, via Prospect Ave. A charter will be applied for.

MERIDEN, CONN.—The Meriden Electric R. R. Co. expects to petition the next state legislature for permission to extend its lines in this city. N. H. Heft, Pres., 127 Pratt St.

NEW BRITAIN, CONN.—It is announced that the Central Ry. & Electric Ry. will ask the state legislature for permission to build several extensions to its system. A. M. Young, Pres., Chestnut St.

NEW HAVEN, CONN.—Reports state that Thos. M. Waller, Lieut.-Gov. Jas. D. Dewell, Israel I. Kelsey, Vice-Pres. of Winchester Ave. R. R. Co.; S. Harrison Wagner, of the New Haven St. Ry. Co., and W. B. Ferguson, Pres. of Winchester Ave. Co., have petitioned the general assembly for an act of incorporation empowering them to form a new street railway company, and to lay tracks through several streets in New Haven and through surrounding towns.

ELMIRA, N. Y.—It is reported that the American Engineering Co., Bound Brook, N. J., has been awarded the general contract for the construction of the proposed Elmira & Seneca Lake Electric Ry., which is to connect Elmira and Seneca Lake, via Watkins, Montour Falls, Millport and Pine Valley. Samuel Knapp, Montour Falls, will furnish the cross ties and trolley poles, and Michael Frank is to furnish 200 laborers. Work on the construction of the culverts, bridges, etc., will be commenced soon, but track will not be laid until the spring. Harry M. Herbert, Ch. Engr.

NEW YORK, N. Y.—It is announced that the Westinghouse Electric & Mfg. Co., Pittsburg, Pa., has been awarded the contract for the steam and electrical equipment of the power house and street railway lines of the Third Ave. R. R. Co. The contract involves the expenditure of several million dollars, and covers the steam engines, boilers and entire steam plant, and the electric generators, rotary transformers and all other electrical apparatus required. The power house will be built at 216th St. Albert J. Elias, Pres., 1119 Third Ave.

NYACK, N. Y.—Work has been suspended on the proposed line of the Nyack Traction Co. until the spring.

CLIFFSIDE, N. J.—The Bergen County Traction Co., foot of West 130th St., New York, informs us that the construction of an extension of its line, from Fort Lee Ferry to Hudson county, via Cliffside, has not yet been positively decided upon, but will depend largely upon the terms of the franchises offered the company.

HARRISBURG, PA.—F. B. Musser, Supt., of Harrisburg Traction Co., informs us that the proposed extension to Lingleston was surveyed several years ago. Nothing has since been done, nor is it expected to build very soon. E. C. Felton, Pres.

PERKASIE, PA.—The Inland Traction Co. has been granted a franchise to build on certain streets in this borough. Pascoe & Crilly, Contractors, Allentown, Pa., are said to be interested.

PHOENIXVILLE, PA.—It is reported that work will soon be begun on a trolley line to be built by the Montgomery & Chester Electric Ry. Co., between Phoenixville and Spring City, six miles, with possible extensions to Limerick Square and Pottstown. John J. Ridgway, Pres., Philadelphia, Pa.

STONYCREEK MILLS, PA.—We are informed that Davis Bros., of Reading, Pa., have about completed preliminary surveys for an electric railway from this place to Friedensburg, a distance of 6 miles. It is expected that the right of way will be secured this winter, and that actual construction will begin in the spring.

VICKSBURG, MISS.—It is reported that Geo. F. McCullough, of Richmond, Ind., will have charge of the construction of the proposed electric railway and light plant in Vicksburg, for J. C. Shaffer, of Chicago.

CHATTANOOGA, TENN.—It is announced that the Chattanooga Electric Ry. Co. will expend $55,000 in improving and equipping its system. J. H. Warner, Pres.

ALLIANCE, O.—The Stark county commissioners have granted an extension of six months' time to the Stark Electric Ry. Co., within which to complete its line between Alliance and Canton.—H. Blakeley, of Alliance, is said to be interested in a projected electric railway to connect Alliance and Akron, to be 30 miles in length.

BUCYRUS, O.—Press reports state that F. Coleman Boyd, Vice-Pres. of New Haven Bar Register Co., and C. W. Blakeslee, Contractor, of New Haven, Conn., are interested in the construction of a proposed electric railway between Bucyrus and Galion.

CHAGRIN FALLS, O.—We are informed that all the grading has been completed on a 50-ft. private right of way for the Chagrin Falls & Eastern Electric R. R. Co., which proposes to build from South Newbury to Garretville, via Burton, Troy, and Hiram, a distance of 26 miles. Capital for construction has been secured. Jay E. Latimer, Cleveland, O., has the contract for the overhead work, and the contract for the tracklaying will be awarded Jan. 1. R. S. Hubard, Pres., Cleveland.

HAMILTON, O.—The Hamilton & Eaton Electric St. Ry. Co. was incorporated in Ohio, Dec. 15, with a capital stock of $10,000, to construct an electric railway between Hamilton and Eaton, via Camden, Somerville, Collinsville and Seven Mile, a distance of 125 miles. Incorporators are: J. H. Shallenberger, J. A. Walker, A. T. Elliott, J. C. Unzicker.

XENIA, O.—Reports from Xenia state that J. Wayne Neff writes from Philadelphia that he has made a contract with contractors in that city for constructing the proposed line between Xenia and Dayton.

TERRE HAUTE, IND.—Forbes Holton, of the Union Glass Works, and M. R. Williams, Mgr. of Strawboard Trust plants, of Anderson, Ind.; and Crawford Fairbanks, of Terre Haute, have formed a company for the purpose of building an electric railway from Terre Haute to Charleston, via Mattoon, Ill. The line will be joined to the Indiana system by a line from Indianapolis to the Terre Haute via Green Castle and Brazil.

LIBERTYVILLE, ILL.—The council has granted a 50-year franchise to the Chicago & Fox Lake Electric Ry. Co., to build in this village. A. W. Waldo, Village Pres.

SPRINGFIELD, O.—An electric railway between this city and Decatur is projected by a Chicago company, represented by F. L. Sparrow.

OSHKOSH, WIS.—The Citizens' Traction Co. has secured the right of way along the Ridge Road, between this city and Neenah. The company has 60 days in which to accept the franchises, and, if accepted, agrees to pay a forfeiture of $4,000 if the road is not completed by August 1. The plan is said to be independent of the Tillotson Interurban road along the lake shore.

LOS ANGELES, CAL.—The board of public works has recommended that the council grant a franchise to the Los Angeles Traction Co. to build an extension on 11th St. from Georgia to Hoover St. T. J. Hook, Pres.

LEAVENWORTH, KAN.—The commissioners of Leavenworth county have granted a 50-year franchise to A. A. Fenn and others, to construct an electric line connecting Kansas City and Leavenworth. Work is to begin by April 1, and to be completed before Jan. 1, 1900.

DENVER, COLO.—The Denver City Cable Ry. was sold at auction Dec. 15, to H. E. Rogers, representing Fred. P. Olcott, of New York, at $500,000.——It is also stated that the West End Electric Ry. was purchased by the same company at $40,000.

DARTMOUTH, N. S.—The council has appointed a subcommittee to prepare a by-law authorizing the town to supply its own electric light and operate an electric railway.

HAMILTON, ONT.—An act incorporating the Hamilton & Caledonia Co. will be applied for at the next session of the Ontario Legislature, for power to build a railway from Hamilton to Caledonia and Selkirk, thence to some pleasure resort on the shore of Lake Erie. The company proposes to try compressed air as a motive power, according to reports.

HAVANA, CUBA.—The property of the Ferro Carril Urbano was sold, Dec. 14, to a syndicate, headed by Col. G. B. M. Harvey, 32 Nassau St., New York, at $1,472,000, or $92 a share. Others that are interested are: Hanson Bros., Montreal, Que.; the Bank of Toronto; B. F. Pearson, Halifax, N. S.; Harry P. Whitney, New York, and others.

ELECTRIC LIGHT AND POWER.

SOUTHBRIDGE, MASS.—C. W. Weld, who owns the water privilege on the Quinebaug River, below Sandersdale, is considering the question of building a power plant. A local paper stated that a company may be formed.

CHERRY VALLEY, N. Y.—Dr. Geo. L. Merritt, S. W. Barnum and Alva Pearson have been appointed a committee to consider the question of electric lighting.

CROGHAN, N. Y.—The question of lighting this place with electricity is being considered.

ILION, N. Y.—It is proposed to vote at the next municipal election on the question of the city's ownership of the plant.

LOCKPORT, N. Y.—C. T. Raymond, Secy. Lockport Mfg. Association, writes us that plans are being prepared by state engineering department for a dam at this point, to furnish power during the winter. It is not known when bids for the work will be asked.

MANLIUS, N. Y.—W. J. Phillips, who has a franchise, proposes to build a new lighting and power plant.

MIDDLEPORT, N. Y.—Thos. P. Hammond, Village Clk., writes us that S. J. Lawrence, Niagara Falls, N. Y., has been awarded the contract for furnishing 25 lights for the streets at $68 a year. Another bid was received from J. A. Murray, Wilkes-Barre, Pa., at $95 a light.

NEWFANE, N. Y.—T. L. Bunting, of Hamburg, N. Y., and W. T. Ransom, of Lockport, N. Y., are reported as interested in a proposed power plant at this place.

NEW YORK, N. Y.—Bids are asked until Dec. 28 for furnishing the materials and for installing lighting plants for the fireboats "Zophar Mills," "The New Yorker," and the "Robert A. Van Wyck." John J. Scannell, Comr. Fire Dept., 157 East 67th St., Manhattan, New York.

ROCHESTER, N. Y.—Geo. E. Warner, Mayor, writes us that nothing has been done in reference to a municipal plant, save the mayor's recommendation to the committee.

CAMDEN, N. J.—The council committee has decided to ask for new bids for lighting the city with electricity for three or five years.

WILDWOOD, N. J.—Estimates for a plant have been submitted to the council.

BELLEFONTE, PA.—The council is considering estimates for a municipal plant, to be operated in connection with the water-works; estimated cost, about $9,000.

BELLEVUE, PA.—The Pennsylvania Light, Heat & Power Co. has asked for a franchise to operate in this city. The company proposes to build a plant on the Ohio River front.

HOMESTEAD, PA.—The Homestead Electric Light & Power Co. is reported to have purchased 400 ft. of ground along the river front, on which it is proposed to build a new plant.

ANNAPOLIS, MD.—Bids are asked by the bureau of navigation, Navy Dept., Washington, D. C., until Jan. 12, for constructing a power house at the naval academy. Ernest Flagg, Arch., 35 Wall St., New York.——The council has adopted an order offered by Mr. Moss to enter into a contract with the Annapolis Gas & Electric Light Co. for lighting the city for five years upon plans and specifications prepared by Charles G. Edwards, Baltimore, Md., and the street committee. It is upon the express condition that the company put in new lamps, the amount to be paid not to be greater than the present price, which is 25 cts. a light. It was thought impracticable and expensive for the city to build a plant of its own.

SALISBURY, N. C.—Press reports state that money is being subscribed to begin the construction of the proposed power plant on the Yadkin River, for the Yadkin Power Co. Plans for the construction will be considered at once. W. C. Bulliet and Howard Lippincott, Philadelphia, Pa., and Theo. F. Kluttz and Walter Murphy, Salisbury, are interested.

SPARTANBURG, S. C.—Press reports state that Julius L. Carson, Spartanburg, is considering estimates of cost for a plant. It will consist of a 500-HP. water-wheel for 26-ft. head, 125 arc lights of 2,000 c. p., transmitting the currrent 10 miles to the city; dynamo for 2,000 incandescent lights, wire, insulators, transformers, etc.

YORKVILLE, S. C.—T. B. McClain writes us that bids are wanted at once for furnishing the machinery and for building a plant of 25 2,000-c. p. arc and 600 16-c. p. incandescent lights.

DALTON, GA.—This place voted Dec. 10 to issue $7,000 in bonds for a plant, according to reports.

CULLMAN, ALA.—W. H. Jones, Cy. Clk., writes us that this place voted Dec. 12 in favor of asking the legislature for authority to build a plant and water-works. The bill will probably be passed in January, after which steps will be taken to issue the bonds.

HUNTINGDON, TENN.—This place, it is stated, will soon vote on the question of issuing bonds for a plant.

GREENUP, KY.—We are informed that the Greenup Light Co., recently incorporated with a capital stock of $5,000, has purchased the plant now in operation. It does not propose to build an extension.

LISBON, O.—Press reports state that the council will soon establish a plant in connection with the water-works.

PLEASANTVILLE, O.—Bids are asked until Jan. 1 for lighting the streets of this village. Geo. L. Gebhart, Clk.

HARTFORD CITY, IND.—The question of purchasing the plant of the Hartford Light & Power Co. is being considered by the council.

WABASH, IND.—Press reports state as follows: A syndicate has been formed to acquire possession of 12 electric light and power plants now illuminating as many towns and cities in this part of Indiana, ranging in population from 4,000 to 25,000. These plants are all within a radius of 60 miles of Wabash, and the scheme originated in this city. Options on nine of the 12 plants have been obtained at favorable figures, and it is expected options on the remaining three will soon be closed. The aggregate price of the nine is $360,000, but the syndicate, which intends to add many and important improvements and extend the scope of operation to other fields, will be capitalized at $1,500,000. The capital for carrying out the scheme has been pledged in this and neighboring cities, together with parties in Indianapolis, Hamilton, O., and New York.

WINCHESTER, IND.—Bids are asked until Jan. 18 for furnishing the materials and for constructing an extension of the plant and for building water-works. S. D. Fox, Cy. Clk.

BELDING, MICH.—The council, it is reported, wants to grant a franchise for lighting the city by electricity.

LAWTON, MICH.—The council has awarded the contract for furnishing the machinery for the proposed plant to the General Electric Co., Schenectady, N. Y., and to the Wray-Austin Machinery Co., Detroit, Mich. The equipment will cost about $5,000, the building not included.

EDWARDSVILLE, ILL.—Plans have been completed for a plant for the Edwardsville Electric Light & Power Co., to take the place of the one recently destroyed. The company has asked for an extension to its franchise. C. A. Vallette, Secy. and Treas.

EAU CLAIRE, WIS.—Bids are asked until Dec. 31 for lighting the streets and public places with electricity. J. P. Cockrane, Cy. Clk.

MILWAUKEE, WIS.—The committee on public buildings of the county board is considering the advisability of installing a heat, light and power plant in the courthouse, to cost about $10,000. Nothing definite will be done until after Jan. 1.

FONDA, IA.—R. F. Beswick writes us that an election will be held in March to vote on the question of building a plant.

MADRID, IA.—The council has been asked to grant a franchise for electric lighting.

TOPEKA, KAN.—Bids are asked until Dec. 29 for furnishing and installing one 26 x 48 simple, heavy duty Corliss engine, a line of shafting and pulleys, one 40-in. two-ply belt, one 12-in. belt for the electric plant. Engine and shafting to include foundations, the setting, and the operation of same for two weeks. C. A. Fellows, Mayor; S. S. McFadden, Cy. Clk.

WELLINGTON, KAN.—John T. Stewart, A. Graff and W. A. Renn, of the Commercial Club, have been appointed a committee to urge the council to submit to the voters the question of issuing $100,000 of 4% bonds for a plant and improvements to the water-works.

ABERDEEN, S. DAK.—We are informed that the private plant is rather unsatisfactory, but no change has been made yet, although it is under consideration. The question of the city's putting in a plant is being considered.

EDGERTON, MO.—It is proposed to build a plant here, according to reports.

ELDORA, COLO.—It is stated that a 20-year franchise has been granted to the Eldora Mining, Milling & Power Co. to put in water-works and electric lights for this town. Work will be commenced in the spring. The same company is erecting a 75-ton chlorination plant here at a cost of $80,000.

LAKE CITY, COLO.—The Hinsdale Electric Light & Power Co. is reported to have purchased land and a water right near Argenia Falls, which it will use for power purposes.

PRINEVILLE, ORE.—H. V. Gates, Albany, Ore., is considering the question of building a plant and water-works here.

SANTA CLARA, CAL.—The question of putting in incandescent lights in addition to the arc lights already in is being considered by the council. Councilmen Miller and Bray may be addressed.

EAST SOURIS, P. E. I.—The question of building a plant to be operated by water power is being considered, according to reports.

OTTAWA, ONT.—The Metropolitan Electric Light Co. of Ottawa, is arranging for the immediate construction of its plant at the Britannia water power lands. A canal 180 ft. wide, 9 ft. deep and 2,000 ft. long will be built. Thos. Lindsay, Pres.; Geo. Albert Wanners, Secy.; Henry Aylen, Solicitor.

PRESCOTT, ONT.—James Fowler, of Arnprior, Ont., it is stated, has asked for a franchise.

CASCADE CITY, B. C.—Press reports state that work has been begun on the proposed power plant on the Kettle River cascades. About 20,000 HP. will be developed. A dam 400 ft. and 35 ft. high will be built. The Dominion Mining & Development Agency, Ltd., London, England, and C. K. Millbourne, Civil Engr., Nelson, B. C., may be addressed.

WINNIPEG, MAN.—An election will be held Feb. 20 to vote on the question of issuing $50,000 in bonds for a municipal plant according to reports.

NEW COMPANIES.—Bradford Electric Light Co., Bradford, Ill.; $10,000; Robert Thompson, Daniel J. Phoenix, Edmund F. Deyo, John P. Code.

James River Construction Co., Richmond, Va.; $1,000,000; to construct a power plant and mills on the James River, etc.; R. Lancaster Williams, Pres., 227 East German St., Baltimore, Md.; A. W. Weddell, Secy. and Treas., Richmond.

Merchants' Electric Light & Power Co., New Orleans, La.; $300,000; to operate under a franchise recently granted to Cohn & Ber; M. Ber, Pres.; Jos. Simon, Vice-Pres.; E. W. Goldschmidt, Secy. and Treas.; C. A. Gaines, Ch. Engr.

Manhattan Lighting Co., New York; $250,000; to manufacture and supply gas and electricity for lighting, heating and power purposes in New York and Westchester counties; Henry D. Brenner, New York; H. E. Bowen, Brooklyn, and Henry P. Keith, Hempstead, L. I.

South African General Electric Co., Schenectady, N. Y.; $50,000; S. D. Greene, Henry W. Darling, J. R. Lovejoy, Schenectady.

Standard Automatic Lighting Co., East Orange, N. J.; $100,000; to erect light plants; Edmund K. Sargeant, Jr., Joseph Stretch, East Orange, N. J.; R. T. Stout, Asbury Park, N. J.

W. E. Douley Electric Light & Power Co., Big Rapids, Mich.; $40,000, fully subscribed; to supply electricity for light, heat and power; W. E. Douley, J. S. Douley, D. M. Martindale, Chicago, Ill.; J. W. Morton, W. I. Trott, Big Rapids.

Elizabeth Lake Water & Power Co., Los Angeles, Cal.; S. R. Thorpe, W. H. McCoy, P. C. Kennedy, C. C. Wright, H. L. Fiast.

Swedesboro Light, Heat & Power Co., Swedesboro, N. J.; $25,000; Chas. D. Lippincott, Henry M. Ridgway, Chas. B. Mitchell, Thos. B. Turner, John C. Rulon, Benj. F. Lawrence, Jas. J. Davidson.

Pine Bluff Electric Light & St. Ry. Co., Pine Bluff, Ark.; $300,000, of which $175 has been subscribed; Jeff. Hicks, Pres.; Thos. L. Chadbourne, Jr., Vice-Pres.; H. H. Hunn, Secy. and Treas.

Tuolumne County Water & Electric Power Co., Columbia, Cal., to furnish water and electric power and light; $550,000, with $143,000 paid in; J. W. Ellis, Wm. Mansfield, Thomas Conlin, J. B. Pawnall, Columbia; M. B. Harrimann, Shaws Flat, Cal.; Geo. Wright, Springfield, Cal.; Geo. W. Hale, Sonora, Cal.

BRIDGES.

BOSTON, MASS.—Bids are asked until Dec. 29 for constructing the superstructure of fixed spans of the bridge on Summer St. extension across Fort Point Channel. Wm. Jackson, Cy. Engr.——The county commissioners are considering the question of having the Fitchburg R. R. Co. widen the bridge at Massachusetts Ave., North Cambridge.

MEDFORD, MASS.—A bridge of steel or masonry, from 50 to 60 ft. in width and of 60 to 70-ft. span, at the Mystic Ry., crossing by Boston Ave. into Somerville, is in contemplation at Medford.

NEW BEDFORD, MASS.—The county commissioners propose to construct a temporary bridge between New Bedford and Fish Island, to be used during the construction of the Fairhaven bridge.

BINGHAMTON, N. Y.—Bids are asked until Jan. 17 for furnishing plans and constructing a bridge across the Susquehanna River at Tompkins St., as stated in our advertising columns. B. W. Mosher, Cy. Clk.——At a meeting of the board of trade Dec. 13 it was decided to urge the council to take steps for the construction of a viaduct across the railroad on Chenango St. E. F. Jones, Pres.

BROOKLYN, N. Y.—Bids are asked until Dec. 28 for furnishing the material and constructing the Blissville bridge over Newtown Creek, at Greenpoint Ave.; surety, $10,000; for constructing a new superstructure, including electrical equipment and fender rack, for the Union St. bridge over Gowanus Canal; building safety gates for five bridges over the Gowanus Canal; installing electric circuit and furnishing electric motive power for the Washington Ave. bridge over Wallabout Canal and the Carroll St. bridge over Gowanus Canal. John L. Shea, Comr. Bridges, 280 Broadway, New York.

LE ROY, N. Y.—It has been decided to construct a bridge over the Buffalo, Rochester & Pittsburg R. R. at Haskins Crossing, 50 ft. long and 16 ft. wide, with 220 and 240 ft. approaches, to cost about $8,400. Half of the cost will be paid by the railroad company and $2,000 each by the state and town.

WATERTOWN, N. Y.—C. O. McComb, Cy. Engr., writes us that contracts will be let during January for the repair of the old Court and Factory St. bridges and possibly to build a new bridge at Pearl St.

NEWARK, N. J.—The Pennsylvania R. R. Co. has awarded a contract to the Edgemoor Bridge Works, Wilmington, Del., for the construction of a steel drawbridge 500 ft. long of three spans, across the Passaic River.

PHILADELPHIA, PA.—The following bids were received Dec. 13 for the steel superstructure drawbridge over the Schuylkill River at Gray's Ferry. To consist of pin-connected trussed spans on each side of the draw span, with plate girder viaduct approaches, entire length of metallic structure 1,660 ft. Thos. M. Thompson, Dir. Dept. Pub. Wks.:

New Jersey Steel & Iron Co., Trenton, N. J.	$189,000
Pennsylvania Steel Co., Steelton, Pa.	167,422
Phoenix Bridge Co., Phoenixville, Pa. (accepted).	145,000
Elmira Bridge Co., Elmira, N. Y.	164,750
Carnegie Steel Co., Pittsburg, Pa	186,493

NEWPORT NEWS, VA.—The Edgemoor Bridge Works, Wilmington, Del., has been awarded a contract to furnish the material and construct a viaduct 750 ft. long, requiring 1,000,000 lbs. of steel, for the Newport News Shipbuilding & Dry-Dock Co.

JACKSON, MISS.—We are informed that this place will issue Jan. 1 $20,000 of 6% 20-year bonds for the construction of a double span Melan arch bridge; also a number of small rolled girder bridges; by day labor. Walter G. Kirkpatrick, Cy. Engr.

GHENT, KY.—Reports state that the Ghent-Vevay Bridge & Terminal R. R. Co., with a capital stock of $35,000, has been chartered to construct a bridge over the Ohio River, between this place and Vevay, Ind. Albert E. Stone, Fred. Stucy, Sam Stucy and Sam Brown are interested.

CINCINNATI, O.—Robert McRoberts, Legislator, proposes to have the board of legislation submit a proposition to the board of city affairs to abolish the high bridges over the canal and construct draw bridges, at a cost of about $7,000 each.

TOLEDO, O.—It is reported that the receivers of the Detroit & Lima Northern Ry. Co. have been authorized by the U. S. court to expend $6,500 for repairing the bridge over the River Raisin. C. H. Roser, Ch. Engr., Detroit, Mich.

SAGINAW, MICH.—Geo. M. Brown, Ch. Engr., Flint & Pere Marquette R. R. Co., Saginaw, writes us that a contract has been awarded to the Toledo Bridge Co., Toledo, O., for the construction of a bridge over the river one mile west of Saginaw. One truss span 130 ft. long and 6 girder spans 15 ft. wide on pile foundation, capacity 4,000 lbs. per lin. ft.; estimated cost, $15,000. No other work is proposed. C. C. Bothfeld, Des. Engr., Detroit.

QUINCY, ILL.—A bridge 108 ft. long and 20 ft. wide will be constructed over Curtis Creek on Eighth St., to cost about $3,500, the city and county each to pay half.

ST. PAUL, MINN.—The following estimates for bridge work have been submitted to the council: High Bridge—New floor and pavement, $25,800; 3d St. Bridge—New floor, pavement and painting, $11,400; Edgerton St. Railway Bridge—New floor and pavement, $4,800; University Ave. Railway Bridge—New floor, pavement and painting, $17,600; Westminster St. Railway Bridge—New stringers, floor and painting, $5,100; So. Robert St. Railway Bridge—New floor, pavement and painting, $3,100; Western Ave. Bridge—Rebuilding, $6,000; Raymond Ave. Bridge—Rebuilding, estimated cost $46,000, funds on hand $25,000, necessary to raise $21,000; Wabasha St. Bridge—Rebuilding, estimated cost $110,000, funds on hand $27,000, necessary to raise $83,000; 6th St. Bridge—Rebuilding 180 ft., $15,000.

MILWAUKEE, WIS.—Ed. C. Lydon, Secy. Bd. Park Comrs., informs us that negotiations for the proposed bridges and viaducts on the extension of Highland Boulevard are still pending in court.

DENISON, IA.—Bids are asked until Jan. 4 for constructing and repairing bridges for the year 1899, according to reports. J. T. Carey, County Audr.

MAQUOKETA, IA.—Fred. Fischer, County Audr., informs us that the proposed 200-ft. iron bridge at Royertown will not be built this season.

HASTINGS, NEB.—Bids are asked until Jan. 10 for bridge work for the year 1899. D. P. Bigelow, County Clk., informs us that there are no specifications mentioned.

DENVER, COLO.—The committee, consisting of John Henderson, J. P. Carrigan, and T. D. Cobbey, will report Dec. 24 on the legality of constructing a viaduct over the railroad and river at 19th St. G. R. Weir, Pres.——The board of public works is contemplating the reconstruction of the old Blake St. Cherry Creek bridge and placing the old structure at Stout St.; also a bridge forming part of the old viaduct across the Platte River to be placed in location across Cherry Creek at South 14th St.——Reports state that surveys have been made by the city engineer for the proposed Bryant St. bridge.

GAINESVILLE, TEX.—The county commissioners' court has decided to construct several bridges across the Red River, and negotiations will be taken up immediately, according to reports.

DENVER, COLO.—The board of public works has decided to have D. W. Campbell prepare estimates for the proposed viaduct from 7th or South 7th Sts. to Highlands Boulevard and West Colfax Ave.

CHEHALIS, WASH.—Bids are asked until 5 p. m., Dec. 23, for putting in new truss timbers and braces for a 185-ft. span Pratt combination truss bridge. Albert Schooley, County Audr.

SEATTLE, WASH.—The county commissioners have awarded a contract to the San Francisco Bridge Co., at $3,695, for the construction of a bridge over the Green River.

SPOKANE, WASH.—A proposition to construct a bridge to connect the west end of Main Ave. with West Riverside Ave., and an incline bridge from the west end of Main Ave. to Peaceful Valley, will probably be brought before the council in the near future, according to reports.

LOS ANGELES, CAL.—The committee has recommended that a contract be awarded to Sawyer & Arthur, at $13,664, for constructing the Los Feliz, Ave. 26 and 9th St. bridges, and J. D. Mercereau, at $6,890 for the 6th St. bridge.

SACRAMENTO, CAL.—Bids are asked until Jan. 5 for constructing three pile trestles, a total length of about 214 ft., on Grand Island. W. B. Hamilton, Clk. Bd. Supervisors.

SACRAMENTO, CAL.—Marco Verozza, Comr., Placerville, Cal., has reported to the governors that $45,000 is required for new bridges along the Lake Tahoe wagon road. There are four bridges crossing the American River, one crossing Truckee River and one crossing Front Creek, which will have to be rebuilt within the next two years.

SANTA CRUZ, CAL.—Bids are asked until 10 a. m., Dec. 23, for a bridge across Valencia Creek. E. Martin, County Clk.

CHATHAM, ONT.—Owen McKay, Ch. Engr., Lake Erie & Detroit River Ry. Co., Walkerville, Ont., writes us that proposals are wanted at the earliest possible date for the superstructure of the Thames River bridge over the Erie & Huron Ry., at this place. It will consist of two girder spans each 75 ft. in length and a draw span of 278 ft.; estimated cost, $25,000.

ST. THOMAS, ONT.—Bids are asked until Jan. 24 for the construction of two iron bridges, each 120-ft. span, across Kettle Creek, as stated in our advertising columns. Jas. A. Bell, Cy. Engr.

BUILDINGS.

BOSTON, MASS.—Andrew Lumsden & Co., 30 Oliver St., Boston, has received the contract for heating and ventilating the hall of the Redemptorist Fathers' Mission Church, according to reports, at $2,800.

NEW BEDFORD, MASS.—Bids are asked until Dec. 27 for erecting a brick building at the city poor farm, Clark's Point; deposit, $500; Edmund O'Keefe, Supt. of Pub. Bldgs.; S. C. Hunt, Arch., Odd Fellows' Bldg.

BROOKLYN, N. Y.—Eight 3-story brick and stone flat and store buildings will be erected at Stuyvesant and De Kalb Aves. for Lewis Beers Sons, 1124 Myrtle Ave., to cost $80,000. H. Vollweiler, Arch., 483 Hart St.——The following were the lowest bidders Dec. 13 for making improvements to the Kings County Hospital in this city: Ryan & McFerran, 106 East 23d St., New York, for the erection of two new wings, $83,600, and for alteration to the central top story, $9,400; P. J. Carlin & Co., 26 Court St., Brooklyn, for the erection of an idiot pavilion, $5,700; for a nurse's home, $27,743.——Bids were received by the bureau of yards and docks, Washington, D. C., Dec. 10, for constructing a storehouse for ordnance materials at the Navy Yard, in Brooklyn, according to plans and specifications, as follows: Mordecai T. Endicott, Ch. of Bureau: Herman Probst, New York, $78,000. Berlin Iron Bridge Co., East Berlin, Conn., $74,431. W. & T. Lamb, New York, $76,755. Prinn & Tinker Iron Works, 555 West 33d St., New York, $68,800. Wm. H. Ellis, Washington, D. C., $77,009. Leonard Bros., 735 Bergen St., Brooklyn, $67,492. Thos. B. Rutan, Brooklyn, $69,540. Stacy B. Opdyke, Jr., Philadelphia, Pa., $83,394. King Bridge Co., Cleveland, O., $75,662. Grace & Hyde Co., 26 East 42d St., New York, $69,000. John H. Deeves, 287 4th Ave., New York, $63,738. Dequon-McLean Construction Co., 1 Broadway, New York, $85,700. Cooper & Egan, 1133 Broadway, New York, $68,884. John H. Parker Co., New York, $67,934. Post & McCord, Brooklyn, $74,855. Assurance Construction Co., 32 Broadway, New York, $68,498. W. G. Triest, New York, $63,226. Penn Bridge Co., Beaver Falls, Pa., $69,873. Ryan & McFerran, 106 East 23d St., New York, $76,754. M. Gibbons & Son, 318 Columbia St., Brooklyn, $62,975. John Thatcher, 54 Park Ave., Brooklyn, $72,682. P. J. Carlin & Co., 26 Court St., Brooklyn, $64,925. Mapes-Reeves Construction Co., 150 Nassau St., New York, $69,934. Structural Iron Co., Baltimore, Md., $68,150.

BUFFALO, N. Y.—Charles Mosier is reported to have been awarded the contract for building a freight house, 500 x 60 ft., for the Wabash R. R. Co., to cost about $10,000, and also a trestle for tracks alongside the freight house, to cost an additional $10,000.

LESTERSHIRE, N. Y.—M. S. Squires, Village Pres., informs us that the plans of J. Lewis Weir have been accepted for the proposed municipal building and central fire station.

MINEOLA (L. I.), N. Y.—Plans and specifications will be received by the supervisors of the new county of Nassau on Jan. 18 for the proposed court house and jail; estimated cost, about $100,000.

NEW YORK, N. Y.—Bids are asked by the Department of Correction, 148 East 20th St., until Dec. 30, for material and labor required for installing new bath room and wash room in workhouse, Blackwell's Island, and new showers, plumbing and partitions in the bath house in penitentiary, Blackwell's Island; two sureties, $3,000 each.——Bids are asked by the police department of the city of New York, 300 Mulberry St., until Dec. 30, for furnishing materials and making and completing alterations, general repairs and improvements to the station house of the 18th Precinct, at 327 East 22d St.; also for completing alterations, general repairs and improvements to the station house of the 6th Precinct, at 17 and 19 Elizabeth St., Borough of Manhattan. Time for completion, 60 and 90 days respectively.——Bids are asked by the board of education, at 585 Broadway, until Dec. 27, for improving the sanitary condition of Public Schools 63, 101, 114 and 135, Boroughs of Manhattan and the Bronx; Public Schools 16, 22 and 27, Richmond, and Public School 45, Queens; for installing electric light plants in Public Schools 14 and 20, Richmond; and for removing the electric light plant now in Public School No. 9?.——Plans have been filed by Francis J. Schnugg for four 5-story brick flat and store buildings, at 2d Ave. and 92d St., to cost $101,000. Martin Johnson, Arch., 78 East 96th St.; by Joseph Spota, 43 Spring St., for a 6-story brick apartment building on 114th St., near Amsterdam Ave., to cost $75,000. Neville & Bagge, Archs., 217 West 125th St.; by Emily Felt, 246 West 106th St., for a 7-story brick flat and store building, at 114th St. and St. Nicholas Ave., to cost $250,000. Neville & Bagge, Archs.; by John F. Scannel, 551 West 147th St., for an 8-story brick store building, at 39 East 19th St., to cost $90,000. Henri Fouchaux, Arch., 11th Ave. and 162d St.; by W. G. Webber, 55 West 101st St., for two 6-story brick flat buildings, at 120th St. and 7th Ave., to cost $170,000. G. F. Pelham, Arch., 503 5th Ave.; by Louis Cohen, 230 Sackman St., for eleven 2-story frame dwellings on Creston Ave., near 184th St., to cost $62,700. R. Werner, 7 Teasdale Place; by Jacob Fischel, 197 Henry St., for a 6-story brick flat and store building at 26 and 28 Market St., to cost $50,000. Horenburger & Straub, Archs., 122 Bowery.

NEW YORK, N. Y.—W. G. Triest, Contracting Engr., 39 Cortlandt St., New York, has been awarded the contract for building the mailing platform extension and shed for the New York Post Office, using galvanized iron instead of copper, at his bid of $11,437.

NEW BRIGHTON (S. I.), N. Y.—Francis A. Williams, 362 West Broadway, New York, is reported to have received the contract for installing a steam heating apparatus in the village hall, at $1,841.

BRIDGETON, N. J.—Bird P. Evans, Philadelphia, Pa., is stated to have received the contract for erecting a new insane asylum building for Cumberland county, at $57,393. E. Keeler & Co., Philadelphia, was awarded the contract for steam heating at $13,772, and Lewis W. Gould, Vineland, N. J., for the plumbing at $5,074. The other bidders for erecting the building were: Philip Anns, Philadelphia, $59,206; Jos. P. Best, Woodbury, N. J., $59,695.17; Bennett & Rothrock, Williamsport, Pa., $59,715; M. P. Wells & Co., Philadelphia, $59,907; R. C. Ballenger & Co., Philadelphia, $60,400; Jos. Steelman, Bridgeton, N. J., $60,991; F. A. Souders, Atlantic City, N. J., $61,200; J. E. & A. L. Pennock, Philadelphia, $61,234; Macy, Henderson & Co., Philadelphia, $63,405; Girard Construction Co., Philadelphia, $64,300; Jas. W. Lanning, Trenton, N. J., $65,000; Wm. Severns, Camden, N. J., $65,447; J. S. Rogers & Co., Stanwick, N. J., $65,498; B. F. Sweeten & Son, Camden, N. J., $67,698.87; Chas. W. Kaffer, Trenton, N. J., $67,921; Harry T. Nichols & Co., Philadelphia, $67,930; A. S. Reed & Bro., Wilmington, Del., $67,990; Harry B. Shoemaker & Co., Philadelphia, $69,990; Smith & Conover, Bridgeton, N. J., $72,300; Jas. Stewart & Co., Buffalo, N. Y., $77,500.

JERSEY CITY, N. J.—Bids are asked by the board of education, City Hall, until 9 p. m., Dec. 22, for alterations and improvements to Public School building No. 12, on Crescent Ave. J. J. Wiseman, Clk.

CARLISLE, PA.—The First Lutheran Church has decided to erect a new church building to cost about $50,000. Dr. Henry B. Wile, Pastor.

CHESTER, PA.—A new $100,000 high school building will soon be erected at Chester. Seymour Davis, Arch., 907 Walnut St., Philadelphia.

PHILADELPHIA, PA.—The Edgemoor Bridge Co., Wilmington, Del., has been awarded the contract for the erection of two large steel freight sheds for the Pennsylvania R. R. Co., at Piers 13, 14 and 15 North Wharves, foot of Vine St.; estimated cost, $42,000.——Plans have been approved of for a 4-story brick building to be erected at 15th and Cherry Sts., for the Young Friends' Association, to cost $32,000. Wm. L. Price, Arch., 731 Walnut St.——The following bids were received by Thos. M. Thompson, Dir. Pub. Wks., Dec. 13, for erecting the superstructure of a pavilion on Chestnut St. pier; (a) according to plans and specifications; (b) substituting copper for galvanized iron; (c) using galvanized iron in pavilion, and granolithic instead of wooden floors; (d) using copper in pavilion and granolithic instead of wooden floors; all local bidders:

	(a)	(b)	(c)	(d)	Time.
D. J. McNichol	$85,185	$87,685	$84,685	$87,150	6 mos.
J. E. & A.L. Pennock	85,600	86,900	84,700	86,200	6 "
Armstrong & Printzenhoff	83,220	85,445	83,089	85,364	6 "
Ryan & Kelly	90,669	93,420	88,239	91,000	6 "
Charles McCaul	87,580	89,555	85,874	87,849	.....
Macy, Henderson & Co.	84,287	86,760	87,737	90,170	5 mos.

WEST CHESTER, PA.—The trustees of the Westminster Presbyterian Church of this borough have decided to erect a $30,000 church building, at Church and Barnard Sts., on which work will be commenced early next spring.

WASHINGTON, D. C.—The Senate has passed bills providing for the erection of a new municipal building on Judiciary Square, to cost about $2,500,000, and a new U. S. Supreme Court building, at 1st, 2d, B and North Capitol Sts. N. E.

HILTONHEAD, S. C.—Bids are asked at the office of the chief quartermaster, Atlanta, Ga., until Dec. 27, for constructing one set of officers' quarters, two barracks, one hospital, etc., at Hiltonhead.

OPELIKA, ALA.—The commissioners of Chambers county have decided to issue $25,000 of 6% gold bonds with which to build a new courthouse. The contract will be let in January.

NEW ORLEANS, LA.—It is reported that the Stewart Bros., St. Louis, Mo., will probably erect a 12-story building in this city for the American Sugar Refining Co. H. E. Niese, Gen. Supt.

CINCINNATI, O.—Bids are asked until Jan. 5 for brick work, cut stone work, galvanized iron and tin work, plastering, painting and glazing, carpenter work and wrought and cast-iron work and plumbing for proposed alterations and additions to the Public Library building; also for erecting an elevator therein. L. L. Sadler, Chn. of Bldg. Com.; G. W. Drach, Arch., 519 Main St.; Thos. G. Smith, Jr., Consulting Engr., Hammond Bldg.

MARION, IND.—The grand jury has recommended that a new county jail be erected at once.

TERRE HAUTE, IND.—A fire in this city, Dec. 19, destroyed the buildings occupied by Havens & Geddes, Breinig & Miller and others, causing a total reported loss of $80,000.

ALTON, ILL.—The building occupied by Pierson & Carr, dry goods, was destroyed by fire Dec. 17; reported total loss, $50,000.

ELWOOD, IND.—A new city hall building will be erected here. Theodore Harnach, Chn. Bldg. Com.

MILWAUKEE, WIS.—The department store of G. Harstein Sons, at 18th St. and Fond du Lac Ave., was burned Dec. 16, causing a reported loss of about $80,000.

SHELL LAKE, WIS.—The commissioners of Washburn county have decided to erect a new jail to cost not less than $5,000.

CHICAGO, ILL.—Plans have been completed for the rebuilding of the Lincoln Theatre, to cost about $75,000. Carl Zimmerman is reported to be interested.——Postle & Postle, 204 Dearborn St., have completed plans for the reconstruction of the building at 150 Michigan Ave. for the Women's Athletic Club, at a cost of $50,000.—— William Dearing will build a 4-story brick apartment house at 1543 and 1545 Lill Ave., to cost $40,000.

MINNEAPOLIS, MINN.—Reports state that sketch plans have been prepared for an addition to the post office in this city, to cost about $75,000. James Knox Taylor, Supervising Arch., Washington, D. C.

BOONE, IA.—Plans and specifications are asked until Jan. 10 for a new jail building to cost about $10,000. M. D. McGregor, County Audr.

DES MOINES, IA.—It is announced that J. S. Polk, Pres. of Des Moines St. Ry Co., and others, will erect an 8-story building at 6th and Mulberry Sts., to cost about $250,000. Other buildings are planned to be erected in this city during the coming year to bring the total up to about $2,000,000.

NADEAU, KAN.—The following bids were received by the Office of Indian Affairs, Washington, D. C., Dec. 13, for the erection of a frame dormitory and school building on the Kickapoo Reservation: L. D. Eversole, P. O. Box 246, Topeka, Kan., $12,988; Samuel J. Thompson, Holton, Kan., $13,874; Thomas J. Bowers, 407 Monroe St., Topeka, Kan., $13,898; James Nesbit, Atchison, Kan., $12,800; Joseph H. Betts, 1029 Quincy St., Topeka, Kan., $14,402. Victor Bauer, Horton, Kan., $15,750; Herman & Babcock, Hiawatha, Kan., $13,482.

FLANDREAU, S. DAK.—The following bids were received by the office of Indian Affairs, Washington, D. C., Dec. 15, for (a) installing a steam heating plant in the Indian school at Flandreau, and (b) for conduits:

	(a)	(b)
American Heating Co., Duluth, Minn.	$16,157	$13,997
Hess & Rau, Watertown, S. Dak.	13,098	10,598
J. J. Hanighen, Omaha, Neb.	13,900	....
Pittsburg Htg. Supply Co., Pittsburg, Pa	17,944	10,500
Allen Black & Co., Minneapolis, Minn.	11,850	9,850
Augustus J. Archambo, Minneapolis, Minn.	11,000	9,160
Charles D. Symms	11,500	9,150
H. Moors Co., Milwaukee, Wis.	11,000	9,316

ST. LOUIS, MO.—Christian Peper will erect a new 6-story warehouse on Main St., between Morgan and Lucas Aves., to cost $50,000.

ARKADELPHIA, ARK.—Reports state that Chas. L. Thompson will prepare plans and specifications for a $30,000 jail for Clark county. J. H. Crawford, Comr.

EL PASO, TEX.—This city has voted to issue $51,000 in bonds, of which $30,000 will be used for school purposes.——Maydwell & McClintock, 22 and 24 Sheldon Block, have prepared plans for a new city hall building, to cost $30,000, and for which bids were to be opened on Dec. 20.

ROSEBURG, ORE.—The court house of Douglas county was destroyed by fire Dec. 7. Reported loss, $40,000; insurance, $15,000.

FRESNO, CAL.—A fire in this city, Dec. 16, damaged the Voorman block, occupied by Radin & Kemp; reported loss, $100,000.

SACRAMENTO, CAL.—Plans have been accepted for the proposed 12-room high school building, to cost about $75,000. Bids will soon be asked. J. M. Curtis, 126 Kearney St., Arch., San Francisco.

WATER-WORKS.

PLYMOUTH, N. H.—A. F. Wentworth, Jas. N. McCoy, Frank H. Romins, Chas. J. Ayer and Warren G. Chase have been appointed a committee to purchase the works of the Plymouth Aqueduct & Water Co., for not more than $40,000, or, if failing in this, to arrange for the construction of new works.

ESSEX JUNCTION, VT.—E. R. Russell writes us that the legislature has authorized the village to increase its indebtedness to build works. No plans have been prepared and no decided action will be taken until April. Population, 1,000. J. S. Reynolds may be addressed.

PITTSFIELD, MASS.—The water mains will be extended at a cost of $5,000.

WESTERLY, R. I.—A syndicate has offered to purchase the works from the city at cost. L. W. Arnold may be addressed.

FAIRFIELD, CONN.—F. W. Siebert, Edward W. Shedd and C. Siebert have applied to the legislature for permission to build works for this place and Southport. This is probably an application for the renewal of the charter of the Southport Water Co., which was granted in 1889 and lapsed last month.

BUFFALO, N. Y.—The commissioners of public works have decided to put in apparatus at the pumping station for purifying the water for the boilers; estimated cost, $9,000. The apparatus will be purchased from Iribecker & Son, Agents.

HUNTER, N. Y.—Press reports state that money is being subscribed for the construction of the proposed works, for which a franchise was granted in March, 1897, to John A. Longyear, of Kingston, N. Y. The capital stock of the company is $20,000. W. H. Cowan, of Montgomery, N. Y., is interested.

NIAGARA FALLS, N. Y.—The board of public works is again considering the question of improving the works, putting in a filter, etc. After estimates have been made the question will be submitted to the voters.

JAMESBURG, N. J.—It is reported that specifications for works have been adopted, and that bids for the construction will soon be asked by the city clerk.

JERSEY CITY, N. J.—Bids are asked until Dec. 27 for furnishing 1,020 lengths of 6, 8 and 12-in. cast-iron water pipe. Anthony Hauck, Chn. Com.

ORANGE, N. J.—Col. Daniel F. Minnihan, Orange, and the Borough Construction Co., New York, submitted the only complete bids, at $66,667 and $50,000, respectively, Dec. 12, for the engine house, pumping station, 16 and 20-in. cast-iron pipe, masonry dam, etc., for the improvements to the works and the increased water supply from Campbell's Pond. Fred. T. Crane, Cy. Engr.

HARRISBURG, PA.—At the election in February this city will vote on the question of purchasing new pumping engines, at a cost of about $75,000. E. Mather, Pres. Water Comrs.; M. G. Stoner, Select Councilman, may be addressed.

PUNXSUTAWNEY, PA.—The Punxsutawney Water Co. is considering the question of securing an increased water supply.

STEELTON, PA.—The Steelton Home Water Co. proposes to purchase a new pumping engine.

OAKLAND, MD.—G. S. Hamill, City Attorney, writes us that, due to the fact that the law authorizing the issuance of $30,000 in bonds for works was defective, no works will be built. Population, 2,000.

WASHINGTON, D. C.—The board of engineers in charge of the Washington Aqueduct is preparing a report on the matter of filtering the water supply, and will soon submit it to Congress. Lt.-Col. A. M. Miller, Chn. Bd.; John B. Wight, Pres. Bd. Comrs.

WEST TAMPA, FLA.—The contract for building the proposed works, as advertised in Engineering News, has been let to Guild & Co., Chattanooga, Tenn., at about $35,000. J. N. Hazlehurst, Engr., Tampa; M. E. Gillette, Chn. Com.

CULLMAN, ALA.—W. H. Jones, Cy. Clk., writes us that this place voted Dec. 12 in favor of building works and a light plant. The legislature will be petitioned in January to grant the city authority to issue the necessary bonds. Population (1890), 1,017.

AVONDALE, ALA.—The house of the legislature has passed the bill granting this place authority to issue $25,000 in bonds for works, the water supply to be secured from the Avondale Park Springs. J. R. Ellard may be addressed.

GADSDEN, ALA.—The legislature has been asked to grant this place authority to build municipal works.

PRATT CITY, ALA.—G. W. Brown, Chn. Citizens' Meeting, writes us that a committee has drafted a bill to present to the legislature asking for authority to issue $25,000 in 30-year 6% gold bonds for constructing works. The supply will be secured from wells. Population of city and that in in the immediate vicinity is 6,000; inside of corporate limit, 3,500. It is expected to extend the city limits. P. M. McNeil, Chn. Com.

COLUMBUS, MISS.—W. D. Humphries, Mayor, writes us that it will be about two months before anything definite will be done in regard to the proposed extension to the works. The new supply will be secured from the river and overflow wells. No engineer has yet been decided upon. Population, 6,000.

HOLLY SPRINGS, MISS.—We are informed that this city will bore two or three 8-in. wells, to be 500 ft. deep. Walter G. Kirkpatrick, Engr., Jackson, Miss.; D. C. Cannon, Cy. Clk.

CHATTANOOGA, TENN.—The water and gas rates committee has directed the city engineer to prepare a report and estimates for municipal works. After the report is made the legislature will be asked to grant the city authority to issue bonds, and if the request is granted a vote will be taken. J. J. Brown, Chn. Com.; E. Watkins, Mayor.

HILL CITY, TENN.—The Chattanooga Co., Ltd., Chattanooga, will soon begin the construction of the works, which, along with other improvements, will cost about $45,000. H. C. Beck, of the company, may be addressed.

KNOXVILLE, TENN.—Arrangements are being made for the purchase of the works of the Knoxville Water Co., which it is proposed to take possession of on Aug. 1.

RUSSELLVILLE, KY.—H. G. Frederick, Boonsboro, Md., has applied to the council for a franchise to build works. Population, 3,500. B. B. Andrews, Mayor.

IRONTON, O.—Press reports state that John W. Hill, Glenn Bldg., Cincinnati, O., has submitted a report for a better water supply, to cost about $55,000.

YOUNGSTOWN, O.—Press reports state that F. Herbert Snow, consulting engineer, Brockton, Mass., who has been in Warren, O., advising the commissioners of Trumbull county as to means of purifying the sewage at the county infirmary, has also been asked to visit Youngstown to confer with the water-works trustees relative to a source of supply other than the present source.

BROWNSTOWN, IND.—The council, it is stated, will take immediate steps looking towards the construction of works.

FORT WAYNE, IND.—The council has awarded the contract for furnishing a 6,000,000-gallon pumping engine to the Holly Mfg. Co., Lockport, N. Y., at $20,500.

FRANKTON, IND.—It is stated that this place has decided to build works.

SHERIDAN, IND.—We are informed that nothing will be done towards building the proposed works for the Sheridan Light & Water Co. before the spring. Chas. Pape, Sr., Pres. Fleming Mfg. Co., Fort Wayne, Ind., is interested.

SOUTH BEND, IND.—The council proposes to extend the water mains in certain streets. J. T. Kelley, Pres. Bd.

WINCHESTER, IND.—Bids are asked until Jan. 18 for furnishing and constructing works and for extending the electric plant. Estimated cost, about $50,000. S. D. Fox, Cy. Clk.

BAY CITY, MICH.—City Engineer Bloomshield has submitted preliminary plans for securing a pure water supply from Saginaw Bay, at a cost of about $55,000. The intake pipe will cost about $40,000.

DETROIT, MICH.—The water board will prepare estimates for an addition to the works sufficiently extensive to operate three high pressure pumps, two high pressure engines with a capacity of at least 24,000,000 gallons each a day, and a boiler plant with power enough for a subpumping station in the northern part of the city.

GRAND HAVEN, MICH.—The board of public works has recommended the purchase of new boilers for the works and electric light plant, to cost about $3,500.

JONESVILLE, MICH.—T. C. Brooks & Sons, Jackson, Mich., have been awarded the contract for furnishing the materials and for constructing the works, described in our issue of Nov. 10. J. D. Cook, Engr., Law Bldg., Toledo, O.; W. M. Wetmore, Clk.

IRONWOOD, MICH.—Press reports state that Edward Nelson, Mayor, has purchased the plant of the Ironwood Water Co. for $25,000, besides assuming the debt of $225,000 in outstanding bonds.

BEMIDJI, MINN.—Bids are asked until Dec. 31 for the purchase of $7,000 of 6% bonds for constructing the proposed works, noted last week. Ted Smith, Pres. Council; C. F. Schroeder, Village Recdr.

LITTLE FALLS, MINN.—F. E. Hall, City Clerk, informs us that the bond sale set for Dec. 17 has been postponed until some time in January.

MINNEAPOLIS, MINN.—Supervisor McConnell is urging the city to complete the new basins at a cost of about $100,000, and also to construct a filter plant at a cost of about $150,000. It is probable that the council will not ask for new bids for furnishing new pumping engines for some time to come.

DUBUQUE, IA.—The Dubuque Water Co. has given a trust deed for $800,000 to secure bonds issued for raising funds to improve its works.

SIBLEY, IA.—The question of building works is reported as being considered.

WELLINGTON, KAN.—The Commercial Club has appointed John T. Stewart, A. Graff and W. A. Renn a committee to urge the council to submit the question to the voters of issuing $100,000 in 4% bonds for municipal works and an electric light plant.

STANBERRY, NEV.—Bids are asked until Jan. 2 for the purchase of $3,000 of 20 year 5% bonds for the proposed water tower. W. A. Erwin, Mayor.

ABILENE, TEX.—The Lytle Water Co., it is stated, has decided to enlarge Lytle Lake so as it may hold 200,000,000 gallons more water than at present. Other improvements to the works may also be made. N. Werenskiold, Engr., P. O. Box, 511, Dallas, Tex.

DALLAS, TEX.—The question of improving the works is being considered.

GREENVILLE, TEX.—Tests are being made by Lestargetter & Co. for a new water supply to be owned by the city, according to reports.

MARLIN, TEX.—C. C. Chatham, it is stated, has purchased 35 acres of land, about 1½ miles from here, on which it is proposed to build new works and sink wells for a water supply for this place.

VICTORIA, TEX.—Bids are wanted at once by J. H. Schneider, Jr., Chn. Com., for sinking a 6-in. artesian well for an additional water supply.

ENID, OKLA.—Joe. Meibergen, Mayor, writes us that the city is corresponding with manufacturers for estimates for works. The supply will be secured from wells. Population, 3,500.

ELDORA, COLO.—The trustees have granted a 20-year franchise for works and a light plant to the Eldora Mining, Milling & Power Co. Work will be begun early in the spring.

FLORENCE, COLO.—Judge M. S. Bailey has granted an injunction restraining the city from putting in works at a cost of $135,000. The injunction was sustained because Trustee Deibert failed to receive official notice of the special meeting of the town board when the ordinance was passed calling an election. The board is determined to build the works on the original proposition. The bids for the construction were given in our last issue. Another election will be held Dec. 29.

LEADVILLE, COLO.—The Leadville Water-Works Co. was incorporated Dec. 14 by C. N. Priddy, Supt. and Secy., Leadville; Andrew N. Dix, B. L. Carr and W. E. Hawks, Bennington, Vt. The company is formed to acquire by purchase the property and franchises of the Leadville Water Co. for supplying the city with water for fire and domestic purposes; to erect plants for the generation of electricity and the compression of air. Capital stock, $400,000. The principal business of the company will be carried on at Leadville. Branch offices will be established at Boston, Mass., and Portland, Me.

KETTLE FALLS, WASH.—D. H. Brown writes us that an election will be held in January, to vote on the question of issuing bonds for works.

RITZVILLE, WASH.—This place voted Dec. 6 to sell the works to a company. The plant is said to be very incomplete, and the new owners will probably take steps at once to improve it. Population (1890), 700. M. R. Peters, Mayor.

PRINEVILLE, ORE.—H. V. Gates, of Hillsboro and Albany, Ore., proposes to build works and an electric light plant in this place.

OAKGROVE, CAL.—The Oakgrove Water Co. has been incorporated, with a capital stock of $10,000, by E. Fleur, M. Regnier and Edgar E. Lefebie.

PLEASANTON, CAL.—The question of the municipal ownership of the works is being considered.

SAUSALITO, CAL.—John H. Dickinson, Pres. Bd. of Trustees, writes us that nothing is likely to be done for some time towards a new water supply, which a new company proposes to secure.

PHOENIX, ARIZ.—An election will be held Jan. 12 to vote on the question of issuing $265,000 in bonds for municipal works and a sewerage system, or of issuing $150,000 for the works alone. Ernest Abs Hagen, Engr., Byrne Bldg., Los Angeles, Cal., and Adams Hotel, Phoenix; J. C. Adams, Mayor.

RENO, NEV.—Bids are asked until Feb. 13 for the purchase of $130,000 of 6% bonds for the proposed works. (Postponement from Dec. 12.) F. B. Porter, Cy. Clk.

STAYNER, ONT.—This place voted Dec. 13 to issue $24,000 in bonds for works.

INGERSOLL, ONT.—M. Mills, Mayor, writes us that no action will be taken towards the purchase of the works and light plant of the Ingersoll Water-Works Co. before next year.

UXBRIDGE, ONT.—It is stated that the question of building new works and a sewerage system is being considered. The supply will be received from wells. Population (1890), 2,023.

SEWERAGE.

SPRINGFIELD, MASS.—Bids are asked until 12 o'clock noon, Dec. 23, for completing the construction of the brick sewer in Fulton, Sargeant and Carew Sts. There will be about 1,000 ft. of 84x56-in. to 81x54-in. brick sewer. W. L. Dickinson, Supt. of Sts.; C. M. Slocum, Cy. Engr.

ROCHESTER, N. Y.—It is proposed to build a sewer in North St. Paul St. and to pave with macadam a portion of Alexandria St., at a cost of $6,000 and $6,800, respectively. Peter Sheridan, Cy. Clk.

EAST ORANGE, N. J.—Wm. H. V. Reimer, Township Engr., 28 Maple Ave., writes us that the construction of the drains in the East Orange Boulevard is awaiting some definite action by the Essex County Park Commissioners as to the share of the cost which the commissioners will bear. The ordinance for the building of the drain has passed its first reading and will probably be laid over from time to time until the financial problem is solved. There will be 7,000 ft. of 66 to 34-in. brick sewer; average cut, 10 ft.; estimated cost, $53,000.

ELIZABETH, N. J.—Bids are asked until Jan. 16 for constructing about 800 ft. of 18 and 12-in. pipe sewers, etc. N. K. Thompson, St. Comr.

HACKENSACK, N. J.—Bids are asked until Dec. 28 by the Hackensack Improvement Commission for the purchase of $56,000 of 5% sewer bonds. L. A. Campbell, Clk., 76 Main St., Hackensack.

OCEAN GROVE, N. J.—The township committee has been asked to grant a franchise to the Sanitary Sewer & Sewage Utility Co. The company proposes to build a reservoir at Duck Creek of sufficient size to accommodate the sewage of the township, including Asbury Park, Ocean Grove, Bradley Beach and Avon. Capital stock, $1,250,000.

CARLISLE, PA.—Chauncey D. Ives, Chambersburg, Pa., has submitted plans and estimates for certain sewers to cost about $11,000. Councilmen J. E. Einstein, Pres., and Porter may be addressed. Councilman M. Cherry writes us that further information can be secured at an early date.

CHAMBERSBURG, PA.—The council has been petitioned to have surveys for a system made. Councilmen Hoffeditz and Kennedy may be addressed.

BALTIMORE, MD.—It is proposed to build a sewer from Eutaw St., near Druid Hill Park, to Jones Falls.

LAKEWOOD, O.—It is stated that this place is arranging to build a system.

LEBANON, IND.—Press reports state that it is proposed to clean and deepen about 30 miles of Prairie Creek and its tributaries. After this is completed it is possible that plans for a sewerage system will be considered.

BLOOMINGTON, ILL.—The council has voted to construct a brick sewer to drain the Sugar Creek Valley.

BUSHNELL, ILL.—An election was held Dec. 18 to vote on the question of issuing $17,000 in bonds for sewers.

ELGIN, ILL.—The commissioners have recommended the construction of new sewers, at a cost of about $7,000.

HAVANA, ILL.—H. C. Breidert, Cy. Engr., writes us that the city will advertise in the early spring for bids for extending the system. J. M. Henninger, Mayor; W. C. McKinney, Chn. Com.

MILWAUKEE, WIS.—The city authorities of Wauwatosa have asked the county board of supervisors to consider plans for improving the system of the county institutions near that city. A joint committee has been appointed to consider the question. The present system for the county buildings was built at a cost of about $22,500. D. G. Hathaway, Health Comr.

GRAND ISLAND, NEB.—A. C. Koenig, Cy. Engr., writes us that the city proposes to build 7,200 ft. of 8-in. pipe sewers in three districts. About 2,400 ft. will probably be built this season, and the balance will be postponed until next spring.

ST. JOSEPH, MO.—The council has decided to ask for new bids for building new sewers in Sewer Districts Nos. 56 and 16.

DENVER, COLO.—Wm. H. Taylor, Secy. Bd. Pub. Wks., writes us as follows in regard to the proposed Capitol Hill storm sewers: The bill for an ordinance creating Capitol Hill Storm Sewer District No. 1 of this city passed the board of supervisors unanimously, and is now in committee of the board of aldermen. It is hoped that the aldermen will pass the bill within the next few days. If it does, a notice calling for bids for the construction will then be published for 10 days. The bids would then probably be received and opened early in January. The entire work will cost about $1,000,000.

GUTHRIE, OKLA.—A. P. Saunders, Chn. Fire Comrs., writes us that the council has passed an ordinance directing the engagement of an engineer to prepare plans for a system. An election will be held to vote on the question of issuing bonds for the improvement.

SPOKANE, WASH.—The council is reported to have voted to build new sewers in Post and Pacific Sts. Councilmen Acuff and Schiller may be addressed.

LONG BEACH, CAL.—Estimates for a system have been submitted. There will be about 24,370 ft. of pipe; estimated cost, $25,000. C. J. Gouncher, Cy. Engr.; T. H. James, Consult. Engr.

PALO ALTO, CAL.—The question of building an outfall sewer, to cost about $35,000, jointly with the University, is reported as being considered by the board of city trustees. Trustee Mark may be addressed.

WATSONVILLE, CAL.—Plans are to be prepared at once for a system to cost about $35,000, according to reports.

PHOENIX, ARIZ.—Ernest Abs Hagen, Byrne Bldg., Los Angeles, Cal., has submitted plans for a system and waterworks to cost about $255,000. An election will be held Jan. 12.

GARBAGE DISPOSAL—STREET CLEANING

NEW HAVEN, CONN.—Bids are asked until Dec. 27 for removing the garbage from the city for one year from Feb. 1. Ward Bailey, Clk. Bd. of Health.

NEW YORK, N. Y.—Bids are asked by the department of correction, 148 East 20th St., Manhattan, until Dec. 30, for furnishing six self-dumping cars for Riker's Island and for furnishing a 200-ton scow, and also by Jas. McCartney, Comr. St. Cleaning, 346 Broadway, until Dec. 30, for the towing of loaded deck scows from the several dumps of the Boroughs of Manhattan and the Bronx to Riker's Island, and the return to the said dumps from Riker's Island of light scows.

CHICAGO, ILL.—The finance committee of the council has adopted specifications for moving the city garbage. Bids will be asked at once by L. E. McGann, Comr. of Pub. Wks.

STREETS AND ROADS

BOSTON, MASS.—The town of Revere has voted to improve Dolphin, Ware, Waverly and Garfield Aves., at a cost of about $10,000.

BRAINTREE, MASS.—A contract has been awarded to Charles McDermott & Sons, at $5,640, for constructing retaing walls, culverts and widening Commercial St.

HULL, MASS.—At a town meeting Dec. 13 it was decided to appropriate $3,000 for the repair of roads.

MERIDEN, CONN.—This place will make an effort to secure legislative authority to issue $200,000 in street improvement bonds.

NORFOLK, N. Y.—A resolution by County Commissioner Mein, Canton, N. Y., was adopted Dec. 9 for the improvement of about 2½ miles of highway.

NEW YORK, N. Y.—Bids are asked until Dec. 28 for granite block paving on concrete foundation on portions of four streets and asphalt paving on five streets. James P. Keating, Comr. Highways, 150 Nassau St.——Bids are asked until Dec. 31 for furnishing 11,000 cu. yds. of top soil, 4,250 cu. yds. of crushed trap rock, a 12-ton steam road roller, 10 750-gallon road sprinklers and six dump carts. Geo. C. Clausen, Comr. Parks, Arsenal, Central Park.

JAMESTOWN, N. Y.—Bids will soon be asked by the board of public works for paving Chandler St. with brick on concrete, between East Second and Windsor Sts.

ATLANTIC CITY, N. J.—Bids are asked until Dec. 27 for about 21,340 sq. yds. of macadam, including excavation; 5,025 sc. yds. of brick paving on concrete, 13,840 lin. ft. of straight curbing, 512 lin. ft. of curved curbing, etc., as described in our advertising columns. J. W. Hackney, Cy. Surveyor.

JERSEY CITY, N. J.—The street and water commissioners will give a hearing Dec. 27 for the proposed improvement of Claremont, Orient, West Side and Greenville Aves., and the Hudson and Old Bergen Roads. Geo. T. Bouton, Clk.——A contract has been awarded to the New Jersey Mexican Asphalt Co. for the improvement of Prospect St.

MIDVALE, N. J.—The state road commission has passed favorably on a petition to have four miles of the Greenwood Lake Road improved next spring.

PHILADELPHIA, PA.—Bids are asked until Dec. 22 for furnishing and constructing asphalt, brick and macadam paving and electric lighting, sewers, etc., at Fairmount and Hunting Parks, according to reports. J. T. Vogdes, Ch. Engr. and Supt.

BALTIMORE, MD.—Bids are asked until Dec. 28 for paving on Forrest St. and two alleys. O. W. Connet, Acting Cy. Comr.

GULFPORT, MISS.—S. S. Bullis, Mayor, informs us that plans will be ready and a contract let about Jan. 1 for street and drainage work, for which $10,000 in bonds has been authorized.

LOUISVILLE, KY.—Bids are asked until Dec. 29 for asphalt paving on Von Borries Ave., Hepburn Ave., East Broadway and Chestnut St. Chas. F. Granger, Bd. Pub. Wks.

CINCINNATI, O.—Bids are asked until Jan. 7 for the construction of 10 miles of macadam on the Montgomery pike, between Norwood and Silverton; estimated cost, $15,000. Engr., J. A. Stewart, 518 Johnston Bldg.

CLEVELAND, O.—The council has resolved to grade, drain and curb Montgomery St., from Geddings Ave. to Parker St. Howard H. Burgess, Clk.

CROWN POINT, IND.—Michael Grimmer,County Audr., informs us that the following bids were received Dec. 17 for the construction of about 20 miles of macadam roads; advertised in Engineering News:

Chicago Crushed Stone Co., Chicago, Ill.....	$127,890
Dolese Bros., Chicago, Ill.	125,750
Peters, Sullivan & Runyan, Orleans, Ind.....	127,000
John Holloran, Hobart, Ind.	127,000
Brownell Improvement Co., Chicago, (accepted)	124,500

EAU CLAIRE, WIS.—Alderman E. S. Hammond writes us that the ordinance for brick paving on South Barstow, Kelsey and four other streets, has passed the council and the specifications were to be decided upon Dec. 21. Bids will soon be asked. C. A. Alderman, Cy. Engr.

LA CROSSE, WIS.—A special committee, composed of the mayor and three aldermen, will be appointed to investigate the present method of street paving and to recommend such new system as it may find on investigation to be preferable.

KEOKUK, IA.—Bids are asked until Dec. 31 for 2,100 cu. yds. of excavation, 3,767 sq. yds. of macadamizing and 2,204 lin. ft. of stone gutter, on Franklin St. G. M. Walker, Cy. Engr.

BRYAN, TEX.—The council has under consideration the question of issuing $15,000 in bonds for grading and gravveling Main and intersecting streets.

DENVER, COLO.—The board of public works has requested an appropriation of $6,500 for paving repairs and about $24,000 for resurfacing Larimer and 16th Sts.

SEATTLE, WASH.—A hearing will be given Jan. 2 to consider the proposed improvement of 9th Ave., 10th Ave. and Lee St. W. V. Rinehart, Pres. Council; W. H. Parry, Comptroller.

SPOKANE, WASH.—The council has authorized the board of public works to prepare plans for asphalt paving on First, Monroe and Bridge Aves.

PORTLAND, ORE.—A petition for the paving of Alder St., from Sixth to Lownsdale Sts., with wooden block, has been granted by the council.

AUBURN, CAL.—J. B. Hayford informs us under date of Dec. 10 that the board of county supervisors wish to purchase a rock crusher and an upright boiler. Two members of the board have been to Stockton and San Francisco, but did not find what was wanted.

OAKLAND, CAL.—Resolutions have been passed by the council for macadamizing portions of Filbert, Jackson, Third, Sixth, Seventh and Harrison Sts.

SACRAMENTO, CAL.—Marco Varozza, Comr., Placerville, Cal., has reported to the governor that about $20,000 will be necessary for the maintainence of the Lake Tahoe wagon road for the next two years.

EDMONTON, ALTA.—The dominion parliament, Vancouver, B. C., has voted to appropriate $15,000 toward the construction of a wagon road from this place to the Yukon River.

MANUFACTURING PLANTS.

BOSTON, MASS.—It is reported that L. Edgar Trinson and others have petitioned the legislature for authority to construct and operate in the streets and highways of the commonwealth the refrigerating works for the purpose of distributing liquid ammonia and other like compounds.

NEW BEDFORD, MASS.—The W. S. Hill Electric Co. will soon erect a 4-story brick building, 30 × 80 ft., on the corner of Elm and Water Sts. Caleb Hammond & Son, Archs.

NORWICH, CONN.—H. P. Cummings, Ware, Mass., is said to have been awarded the contract for the construction of a one-story brick mill, 150 × 150 ft., and a boiler house, 35 x 77 ft., in this city, for the J. B. Martin Co., Ltd., Lyons, France; work to be completed by March 1.

BALDWINSVILLE, N. Y.—A fire here Dec. 19 destroyed the plants of the Kenyon Paper Mill, the New Process Rawhide Works, and the G. H. & A. T. Hotaling Flour Mill; reported loss, about $60,000.

LAUREL HILL (L. I.), N. Y.—The Nichols Chemical Works has filed plans for a proposed 3-story building, 115 × 78 ft., for the manufacture of its fertilizers.

LEONARDSVILLE, N. Y.—Reports state that the Eureka Mower Works will remove its plant from Utica, N. Y., to this place.

NEWARK, N. Y.—The Hunt Mfg. Co., Cato, N. Y., is considering the matter of removing its plant to Newark.

NIAGARA FALLS, N. Y.—The Electro-Chemical Co. has awarded the contract for the mason work on the 50 × 125-ft. addition to its plant to John Sandstrum, and the contract for carpenter work to Schumacher & Moyer.

BAYONNE, N. J.—Reports State that the Erie Dry-Dock & Shipbuilding Co. will establish an iron shipbuilding yard on Shooter's Island, near Bayonne. Andrew Carnegie is said to be interested.

NEWARK, N. J.—The tannery of the Chrome Patent Leather Co., at Ave C. and Thomas St., was destroyed by fire, Dec. 20, causing a reported loss of about $150,000; partly insured.

ALLEGHENY, PA.—A new $500,000 brewery building will be erected by the First National Brewery Co., between Preble Ave. and the river, according to reports. V. Wyss Thallman, Arch., Bissel Bldg.

CHESTER, PA.—S. I. Birkin & Co., lace manufacturers, will erect an addition to their plant at 2d and Clayton Sts., according to reports.

CONSHOHOCKEN, PA.—The pattern works and boiler house of John Wood, Jr.'s iron plant were destroyed by fire Dec. 14; estimated loss, $40,000.

ELLWOOD CITY, PA.—Reports state that Clark Bros., chief owners of the American Lamp & Brass Co., Trenton, N. J., will remove their western factory from Blairsville, Pa., to this city.

BALTIMORE, MD.—Bids are asked for the new Baltimore & Ohio R. R. Co.'s warehouse at Camden Station. Baldwin & Pennington, Archs., 44 South St, Baltimore.

DAHLONEGA, GA.—It is reported that the Dahlonega Consolidated Gold Mining Co. contemplates installing new machinery, and will erect a 200-stamp mill or two 100-stamp mills and a plant to treat the shipments. H. D. Ingersoll, Mgr.

DECATUR, ALA.—The Louisville & Nashville R. R. Co.'s shops, according to reports, will be enlarged. R. Montfort, Ch. Engr., Louisville, Ky.

NEW ORLEANS, LA.—The Home Ice Distilling Water Mfg. Co., Ltd., contemplates the erection of an ice plant at Water and Milan Sts., according to reports.

NEW ORLEANS, LA.—The plant and franchises of the New Orleans Abattoir Co., Ltd., will be sold at auction Jan. 4. W. C. H. Robinson, Special Master, Hennen Bldg.

TOLEDO, O.—W. C. McElhenny and C. H. Burchenal, of Pittsburg, Pa., are said to contemplate the erection of a dock and an asphalt plant in this city.

CONVERSE, IND.—The erection of a plate glass factory at this place is projected. R. M. Crouch is said to be interested.

EVANSVILLE, IND.—It is reported that a $100,000 distillery will be erected here by William Schelhorn, of Evansville, and others.

FAIRMOUNT, IND.—The Fairmount Zinc Co., according to reports, will erect a factory at this place. W. B. Pershing, Geo. E. and Chas. E. Potter, Directors.

DETROIT, MICH.—The Edward Armstrong Mfg. Co. has been organized, with a capital stock of $60,000, with $30,000 paid in, to manufacture window shade cloth, oil cloth, etc. A plant will be erected here, the main building to be 50 × 170 ft. Edward S. Madden, Pres.; Geo. S. Clark, Secy.

CHICAGO, ILL.—The American Stove Board Co. has awarded contracts to Geo. H. Fuller for erecting two main buildings, 80 × 250 ft. each, with one addition, 22 × 40 ft., for baking purposes; an engine room, 21 × 35 ft.; a boiler room, 25 × 34 ft.; coal room, 21 × 25 ft., and a 60-ft. smokestack. All to be built of brick, stone and iron. ——The plant of the Johnson Chair Co. was burned Dec. 23, causing a loss of about $90,000; insurance, $75,000.

PEORIA, ILL.—William M. Allen has been awarded the contract for the erection of additional buildings to the Great Eastern distilling plant.

APPLETON, WIS.—Reports state that the Riverside Fiber Co. contemplates the erection of a 30-ton sulphite plant here.

KAUKAUNA, WIS.—It is reported that the Badger paper mills may be rebuilt. Col. H. A. Frambach is interested.

WEST SUPERIOR, WIS.—The Great Northern R. R. Co. will erect a new steel elevator on St. Louis Bay, next spring, to have a capacity of 3,000,000 bushels.

ELY, MINN.—Simpson & Brown have awarded the contract for the machinery for their mill on Fall Lake, near here, to the Diamond Iron Co., Minneapolis, Minn.

SACRAMENTO, CAL.—The Union Iron Works of Root, Belson & Co. were destroyed by fire Dec. 14. Loss, $60,000; insurance, $20,000.

SALT LAKE CITY, UTAH.—The erection of a beet sugar factory at this place is projected. H. O. Fisher is interested.

MONTREAL, QUE.—Reports state that a company has been organized to erect a smelter for the treatment of ores of the Old Ironsides and Knot Hill companies, in the Boundary Creek District. Jay P. Graves, Montreal, is interested.

HAVANA, CUBA.—Reports state that a number of Chicago packers will erect cold storage plants at Havana, Santiago and in Porto Rico. P. D. Armour, G. F. Swift, Nelson Morris and Thos. J. Lipton are said to be interested.

MEXICO, MEX.—Press reports state that the Panuco Sugar Co. will erect a large refinery at this place. Denis Oliver, Pres.

SHANGHAI, CHINA.—The E. P. Allis Co., Milwaukee, Wis., has been awarded the contract for the construction of a new 500-bbl. flour mill at Shanghai, according to reports; shipments to be made by Feb. 1.

GAS PLANTS.

LAWRENCE, MASS.—Reports state that the Lawrence Gas Co. proposes to extend its mains next season.

SHARPSBURG, PA.—W. J. Barton, Borough Solicitor, will present an ordinance at the next meeting of the council, on the application of the American Gas Co. for right of way through the borough.

LOUISVILLE, KY.—The Louisville Gas Co. is preparing to construct a new plant and apparatus at a cost of about $100,000, according to reports. President Morris may be addressed.,

BELLEVUE, O.—It is reported that Baxter & Lynn have been awarded a contract for installing an artificial gas plant.

CHICAGO, ILL.—The People's Gas, Light & Coke Co. will construct a foundry building, 130 × 240 ft., of brick, stone and iron, at Townsend and Superior Sts., including a traveling crane; estimated cost, $15,000. Arch., Minard L. Beers.

IOLA, KAN.—This place will vote Dec. 26 on the question of issuing $40,000 in bonds for the purchase of the plant of the Iola Gas Co., according to reports.

MONROE, WIS.—It is reported that the Monroe Water-Works Co. has applied to the council for a franchise to construct and operate a gas plant, to cost about $25,000. W. H. Wheeler, Pres.

VENTURA, CAL.—Reports state that the Pacific Coast Oil Co. has awarded a contract to Lacy & Co., Los Angeles, Cal., for the construction of a 10,000 bbl. oil tank estimated to cost about $15,000; a compound Worthington pump will be installed, with a capacity of 1,200 gals. of oil per minute; also a pipe line, 2,500 ft. long, to conduct oil to the wharf.

NEW COMPANIES.—Kennedy Mfg. Co., Indianapolis, Ind.; $50,000; to manufacture gas meters; H. C. Jordan, J. P. McGrath, H. L. Kennedy, E. M. Bose and John E. Kennedy.

Gartlan Oil & Gas Co., Sistersville, W. Va.; $500,000, with $3,000 paid in; to mine and deal in oil, gas and materials; Thomas Gartlan, Parkersburg; J. C. Cappeau, Pittsburg; G. F. Dunham, U. J. Nevenschander, H. A. Jackson, Sistersville.

Home Natural Gas Co., Clarion county, Pa.; $6,000; to produce and supply natural gas; W. E. Davis, Treas. and John W. Buzard,West Monterey, Pa.; Thos. G. Christie, Allegheny City, Pa.; Calvin G. Christie, Butler, Pa.; E. Ralph Buzard, West Monterey, Pa.

MISCELLANEOUS CONTRACTS.

FIRE ENGINE.—Salem, Mass.—The council has appropriated $5,100 for a new steam fire engine.

DRAINAGE DITCH.—Ponca, Neb.—Bids are asked until Jan. 2 for constructing a drainage ditch. J. F. Ekeroth, County Clk.

PILES AND STONES.—St. Louis, Mo.—Bids are asked until Jan. 14 for furnishing piles and stones. Maj. Thos. H. Handbury, U. S. Engr., St. Louis.

STEAM TENDERS.—St. Louis, Mo.—Bids are asked until Jan. 14 for furnishing three steel-hulled steam tenders. Maj. Thos. H. Handbury, U. S. Engr., St. Louis.

DITCH.—Burlington, Ia.—Bids are asked until Jan. 4 for constructing a ditch 8,300 ft. long requiring about 26,000 cu. yds. of excavation. M. P. Sharts, County Audr.

DOCK.—Toledo, O.—It is reported that the Toledo Dock & Warehouse Co. has purchased land on Water St., between Jefferson and Monroe Sts., for the construction of docks.

STEAMBOAT.—Fort McHenry, Md.—Bids are asked until Jan. 4 for furnishing a steamboat for government service. N. G. McAlexander, A. Q.-M., Governor's Island, N. Y. H., N. Y.

CHANNEL WORK.—Chicago, Ill.—The board of local improvements has decided to straighten the Chicago River from Belmont Ave. to Lawrence Ave., to cost about $45,000.

TIMBER AND PLANKS.—Montreal, Que.—Bids are asked until Dec. 27 for furnishing timber and planks for the Harbor Commissioners. Alex. Robertson, Secy.; John Kennedy, Ch. Engr.

FREIGHT CARS.—New York, N. Y.—Reports state that the New York, Ontario & Western Ry. Co. and the Central R. R. of New Jersey, are in the market for 500 and 2,000 freight cars, respectively.

SEA WALL.—Annapolis, Md.—Bids are asked by the navy department, Washington, until Jan. 12, for constructing a sea wall at the naval academy. Arch., Ernest Flagg, 35 Wall St., New York.

WOODEN PIER.—New York, N. Y.—Bids are asked by the department of docks, Pier A, Battery Place, Manhattan, until Dec. 31, for building a new wooden pier at Catharine St and the East River.

PIER.—Philadelphia, Pa.—The Pennsylvania R. R. Co. has awarded to the Edge Moor Bridge Co. the contract for a steel and wooden pier, to be constructed at the foot of Wharves 13, 14 and 15, to cost about $40,000.

OLD STEEL RAILS, ETC.—Genoa, Italy.—It is stated that Edward Lambatti, of Genoa, is visiting the United States with a view to purchasing old steel rails and scrap for use in open-hearth steel manufacturing plants.

WHARF, ETC.—St. John, N. B.—Nicholas & Michael Connolly have been awarded a contract by the department of railways and canals for the construction of a wharf, including dredging, at the Intercolonial Ry. terminus.

FIRE ALARM SYSTEM.—Rochester, N. Y.—Commissioner Whalen will present a petition to the finance committee at the beginning of the year for an appropriation of about $35,000 for the construction of a fire alarm telegraph system.

CUTTING AND LOGGING.—Cherokee county, S. C.—Bids are asked by the Apalachian Land & Lumber Co., Apalachia, Cherokee county, until Jan. 2, for cutting and logging 35,000 to 50,000 ft. of logs per day, distance not to exceed 1½ miles.

BREAKWATER BLOCK.—Miminegash, P. E. I.—Bids are asked until Dec. 22 for constructing a new block at the outer end of the northern breakwater. Engr., Jas. B. Eagan, Charlottetown, P. E. I.; E. F. E. Roy, Secy. Dept. Public Wks., Ottawa, Ont.

EARTH FILL, LIME, DREDGING, ETC.—Brooklyn, N. Y.—Bids are asked until Dec. 28 for constructing an embankment of earth filling, furnishing 12,045 bbls. of Maine rock lime and dredging in Newtown Creek at Metropolitan Ave. Jas. Kane, Comr. Sewers, 265 Broadway, New York.

DOCK, DREDGING, ETC.—Two Harbors, Minn.—Reports state that the Duluth & Iron Range R. R. Co. will construct a new dock, No. 1, and dredge the harbor basin. The contract is soon to be awarded. J. L. Greatsinger, Pres. and Gen. Mgr., Duluth, Minn.; W. A. McGonagle, Supt. Bridges and Bldgs., Two Harbors.

JETTIES.—Honduras, Central America.—J. Francis Le Baron, Ch. Engr. American-Honduras Co., Jacksonville, Fla., is preparing plans and specifications for a system of jetties for deepening the Patuca River channel through the bar. The company has a valuable land grant of 250,000 acres and exclusive rights of navigation of the river.

PUMPING MINES.—Leadville, Colo.—The question of pumping the water from the workings of the claims of several of the mines in this vicinity is being considered. Operations will probably be conducted from the standard shaft of the Wolftone Co., which is now 600 ft. deep. It is proposed to make it deeper. Address the Wolftone Co., Leadville.

TELEPHONE SYSTEM.—Fergus Falls, Minn.—The Fergus Falls Telephone Co. is planning to establish toll lines in the spring, to connect the villages in this vicinity with the local telephone system, and has employed J. A. Colehour to secure the right of way for a line which will pass through Underwood, Battle Lake, Henning, Vining, Clitherall and Deer Creek, terminating in Wadena, according to reports.

RAISING VESSELS, ETC.—Washington, D. C.—Press reports state that at a meeting of the board on construction, held at the Navy Department, Dec. 19. It was decided to recommend to the Secretary of the Navy that public bids be invited for raising the battleship "Maine," in Havana Harbor; the Spanish armored cruiser "Cristobal Colon," lying 60 miles to the west of Santiago, and to recover or remove other property on the Cuban coast, including several Spanish gunboats and auxiliary cruisers sunk by Americans, or by the Spaniards, to prevent them from falling into the hands of the United States.

CEMENT.—Providence, R. I.—Bids are asked until Dec. 28 for furnishing cement for use in the sewer, water, highway and bridge departments during the coming year. The cement is to be of the best quality, fresh, fine tested in a sieve of 2,500 mesh a sq. in. At the option of the contractor, it may be contained in well-made, tight casks or, in tight, good cloth sacks, and shall not have been exposed to dampness. The contents of each cask of natural cement shall be of the full net weight of 300 lbs. or three sacks to a cask, and of each cask of Portland cement of the full net weight of 375 lbs. or four sacks to a cask. Before the cement is received it shall be subjected to inspection and vigorous tests. Robt. E. Smith, Comr. Dept. Pub. Wks.

CONTRACT PRICES.

EARTHWORK.—Tampico, Ill.—In our issue last week it was stated that M. Riley & Co., Chicago, Ill., submitted a bid at 12.64 cts. a cu. yd. for 132,182 cu. yds. of earthwork for mile 11 of the Illinois and Mississippi Canal. This was a mistake, the bid being 92.64 cts. a cu. yd. This makes the bid of John Berhery, New York, the lowest, at 16.5 cts. a cu. yd. The work on this mile is considered very difficult, and the bids were much higher than for any other mile. Frank L. Wheaton, Civil Engr., 37 South Arlington Ave., East Orange, N. J., is interested in the lowest bid.

ELECTRIC LIGHTING.—Pasadena, Cal.—The council has awarded the following contract to the Pasadena Electric Light Co. for furnishing electric lights: The contract, which goes into effect Jan. 1, calls for 105 2,000-c. p. arc lights at $6.50 a month, all night on a moonlight schedule. Additional lights are demanded at the same rate. The former price paid for the same service was $10.25. It gives the city power to substitute, on 60 days' notice, 10 16-c. p. incandescent lights for each arc light, or 1,200-c. p. lights for the 2,000-c. p. lights. The incandescent lights, if required, must be placed in a continuous circuit on poles with extension arms of 6-ft., and to be scattered with a reflector. The public buildings, city hall, library, etc., will be lighted for one-third the commercial rate or single lights at $1 a month.

INTERCEPTING SEWERS.—Washington, D. C.—The following bids were received by the district commissioners Dec. 10, 1898, for building the northerly portion of the Tiber Creek and New Jersey Ave. high-level intercepting sewer, as advertised in Engineering News; the work will include 2,310 ft. of 14×14¼ ft. D-shaped sewer, 320 ft. of 9×11 ft. D-shaped sewer in C St., 35 ft. of bell section, and connections with existing sewers:

Bidder.	Price, a cu. yd. Excavation, &c.	Br'k mas'ry, nat'l cem. mortar.	Vit. br'k masonry, Portland cem. mortar.	Concrete masonry in place.	Rubble stone masonry.
Lyons Bros., Washington	$0.80	$9.50	$18.00	$6.00	$7.00
J. K. Murphy, Washington	.83¾	7.85	14.66	3.84	6.00
A. Williams, Washington	.61	8.60	15.50	4.52	5.00
T.B.Jones & Co, Baltimore	.65	8.10	15.00	4.40	5.00
B. J. Coyle, Washington	.74	9.88	18.00	6.00	7.00
J. Jacoby, Wilmington	.70	8.20	16.00	4.30	7.00
Lenman Bros.*	.99½	8.39	16.65	5.35	5.75

*Grand Rapids, Mich.

IMPROVING ROAD.—Cincinnati, O.—The following bids were received by the board of city affairs Dec. 6 for improving Margins Ave.:

Bids Received at Cincinnati, O., Dec. 6, 1898, for Improving Margins Ave.

Bidder.	Concrete, 176 cu. yds.	Curbs, 564 lin. ft.	Curbs, circlr., 38 lin. ft.	Grading, 150 cu. yds.	Brick, 1,056 sq. yds.	Rolling, 1,056 sq. yds.	Repav'g granite, 20 sq. yds.	Total.
J. W. Sullivan, 230 Beresford Ave.	$2.20	$0.50	$0.50	$0.01	$0.88	$0.03	$0.30	$1,657
H. Diekmeier, 166 W. McMillan St.	2.75	.45	.65	.01	.90	.03	.90	1,764
D. A. Walker, Cincinnati, O. (accepted)	2.15	.48	.70	.15	.79	.05	.01	1,585
O. E. Robinson, 4647 Hamilton Ave.	1.90	.50	1.00	.01	1.00	.05	1.00	1,785
A. J. Henkel & Bro., 140 University Ave.	1.00	.45	.50	.01	1.05	.05	.01	1,612
D. Folz Asphalt Paving Co., 8th and Plum	2.50	.48	.75	.01	.90	.03	.50	1,733
M. T. Flynn, 1252 Chase Ave.	2.40	.47	.94	.01	.85	.03	.50	1,664

PIPE SEWERS.—Scranton, Pa.—The following bids were received by councils Dec. 8, 1898, for constructing pipe sewers in the 16th district: V. H. O'Hara, Scranton, $2.75 a lin. ft., complete; extra manholes, $35.00 each; extra basins, $90.00 each; extra house connections, $1.00 a lin. ft. M. J. Gibbond, Scranton, Pa., $2.35; extra manholes, $50; extra basins, $80; extra house connections, $1.25. Donohoe & O'Boyle, Scranton, $2.47½ a lin. ft. complete. Length of sewer, 4,352 lin. ft., of 8, 10, 12 and 15-in. pipe; average depth, 11 ft. The price a lin. ft. to include the building of 30 manholes, 12 basins, and 140 house connections to curb line (about 2,634 lin. ft.). Jos. P. Phillips, Cy. Engr.

ELECTRIC LIGHTING.—Lowville, N. Y.—The Wetmore Electric Co. has submitted to the board of trustees the following bids for street lighting: 32 arc lights of 2,000-c. p. to run from twilight to 1 o'clock a. m. on all but moonlight nights, and 5 lights on State St. to run every night, $50 a light a year; the same number of lights to run all night, $60 a year each; 40 arc lights until 1 a. m. same conditions as above, $50 a light; 40 arc lights all night, $60 a year each; 50 arc lights until 1 a. m., 5 all night, $50 a light; 50 arc lights all night, $55 a year each. In years past $1,800 a year has been paid for 32 arc lights until 12 o'clock midnight. According to the above proposition, the Wetmore company offers to give the same number of lights that have been the case in the past, giving an additional hour's service, for $1,600, or $200 less than has been paid. It seems to be conceded that more lights are needed, and there is also a strong sentiment in favor of all-night lighting. The present contract does not expire until May 5, 1899. The annual charter election occurs in March.

INDUSTRIAL NOTES.

THE W. S. DICKEY CLAY MFG. CO., Kansas City, Mo., has a contract for furnishing pipe for the new sewer system in the city of Mexico.

THE PHOENIX BRIDGE CO, Phoenixville, Pa., has been awarded the contracts for the iron work for the Gray's Ferry bridge, in Philadelphia, at its bid of $145,000.

THE F. W. EMERSON MFG. CO., Rochester, N. Y., has just shipped three of its adjustable drafting tables to the Civil Engineering department of the University of California, Berkeley, Cal.

THE CARNEGIE STEEL CO., Pittsburg, is announced in press despatches from London to have received an order for 40,000 tons of steel rails for the Cape, at 15 shillings a ton under the English bids.

THE DETROIT GRAPHITE MFG. CO., Detroit, Mich., has removed its New York office to the St. James' Building, 1133 Broadway, corner 2 th St. The office was formerly in the Home Life Building, which was injured by the recent fire.

THE PENNSYLVANIA STEEL CO., Steelton, Pa., has just shipped 2,000 steel poles to the city of Mexico, for use in the construction of a new electric railway. It is stated that the poles are of steel, 28 ft. in height, and that 8,000 will be required.

THE BALDWIN LOCOMOTIVE WORKS, Philadelphia, has received orders for 16 more locomotives for the Imperial Ry. of China, 30 for the Reading, 10 for the Chicago & Northwestern, 10 for the Midland R. R., of England, besides various smaller orders.

J. S. MUNDY, Newark, N. J., shipped last week a carload of hoisting engines to Portland, Ore., one being a special steel logging engine; a hoisting engine to Cuba for use in the sugar cane business, and also two double-cylinder double-drum engines to Pittsburg. Other recent shipments include two 60-ft. pile-driving machines, with 4,000-lb. hammers and 30 HP. engines and boilers complete to the Broklyn Navy Yard.

THE GROTON BRIDGE & MFG. CO., Groton, N. Y., reports a large increase in its output during the past year, the shops having run overtime since June 1. During the year the company has erected lift bridges over the Erie Canal at Syracuse and Utica, N. Y., a large shop for the Ingersoll-Sergeant Drill Co., at Easton, Pa., and important heavy highway bridges in Texas, Arkansas and the Southern Middle States. Shop work is now about completed on upwards of 75 bridges for the Lehigh Valley R. R.

THE SCHENECTADY LOCOMOTIVE WORKS, Schenectady, N. Y., has an order from the Midland R. R., of England, for ten Mogul freight locomotives. The engines will have 18×24-in. cylinders, and will be of American design. The works has just completed an order for 27 locomotives to Japan, and 14 of its heaviest locomotives for the Northern Pacific Ry. The works has an order for four 8-wheel passenger locomotives for fast service between Indianapolis and St. Louis on the Vandalia Line.

THE BERLIN IRON BRIDGE CO., East Berlin, Conn., has recently built for the town of Newport, N. Y., a bridge having two spans of about 70 ft. each. This bridge is of the parabolic type, with steel floor beams and stringers. The company has the contract for the steel work for a building which the Boston & Maine R. R. Co. is erecting at Portsmouth, N. H., for its electric power station. The building is 118×64 ft., divided into two rooms, one for the boilers and the other for the engines and electric generators.

THE AMERICAN TIN-PLATE CO. was incorporated in New Jersey, Dec. 15, with a capital stock of $50,000,000, as a consolidation of practically all of the tin-plate mills in this country. The local office of the company is given as at 525 Main St., East Orange, N. J. The capacity of the combination is said to be 8,000,000 100-lb. boxes of tin a year. At a meeting of the stockholders in Chicago Dec. 15, Daniel G. Reid was elected President, Wm. B. Leads, First Vice-President, and Richard R. Quay, of Philadelphia (son of Senator Quay), one of the directors.

THE OLIN GAS ENGINE CO., Buffalo, N. Y., reports a good business, its plant now being run overtime and employing extra hands. Among engines which the company has just installed are the following: A 25-HP. engine at Grove City, Pa., for the town water-works; a 30-HP. engine using gasoline for the water-works at Cambridge Springs, Pa., and a 15-HP. engine for the water-works at Lawrenceville, Va. The company has also installed a number of gas engines for electric lighting service, among others being the following: A 35-HP. engine for the mill of E. M. Upton, Carlton Station, near Rochester, N. Y., and a 35-HP. engine for H. Adler, of Pittsburg, Pa. The latter is the second order for an engine of this type received from Mr. Adler.

THE BROOKS LOCOMOTIVE WORKS, Dunkirk, N. Y., has an order from the Lake Shore road, according to press reports for 45 loco-express freight engines with 19×30-in. cylinders, 62-in. driving wheels and weighing 150,000 lbs. each; 15 consolidated freight engines with 19½×28-in. cylinders, 56-in. driving wheels, and weighing 150,000 lbs. each, and 15 6-wheeled switching engines, with 19×26-in. cylinders, 52-in. driving wheels, and weighing 128,000 lbs. each. The company has also an order for four new 10-wheel passenger locomotives for the Buffalo, Rochester & Pittsburg R. R.

THE AMERICAN WOOD FIREPROOFING CO., 11 Broadway, New York, is building works at Newark, N. J., and will be in a position to fireproof all kinds of timber and lumber needed in naval, marine and architectural work, also all kinds of shingles. The company will sell rights outright for the control of territory, or will give the right to manufacture under royalties, and will superintend the building of the works. The officers of the company are: Pres., Guy Phelps Dodge; Vice-Pres., J. S. H. Clark; Treas., Geo. H. Clark, Jr.; Secy. and Mgr., A. Eugene Kirby; Asst. Mgr., Samuel A. Clark.

NEW COMPANIES.—St. Peter Telephone Co., St. Peter, Minn.; $10,000; H. P. Proctor, Augustus Proctor, Frank A. Chase, J. H. Chase, Viroqua, Wis.; Walter S. Proctor, St. Peter.

Yukon Prospect Corporation, Ltd., New York; $1,000,000, commencing with $10,000; to acquire, own and hold mineral and other lands in Alaska; F. W. Watkins, James R. Mullett, H. H. Russell, George C. Grey and Seymour Kisch, all of New York.

Clarksville Furnace Co., Clarksville, Tenn.; Milton H. Smith, Pres., of Louisville & Nashville R. R., Louisville, Ky.; Cushman Quarrier, and J. H. Ringold, H. W. Bruce, W. D. Hines and E. C. Lewis.

Honduras Ice Co., 106 Market St., Camden, N. J.; $100,000; to manufacture ice and conduct a general cold storage business; George F. Archer, 330 North Sixth St., and Franklin M. Archer, 106 Market St., Camden, N. J.; Thomas S. Nekervis, Merchantville, N. J.

Atlantic Land & Improvement Co., Richmond, Va.; $500,000; to carry on a general real estate business; H. Walters, Baltimore, Pres. Atlantic Coast Line, is believed to be interested.

Chama Improvement Co., Louisville, Ky.; $5,000,000, commencing with $10,000; to operate and sell railways, electric plants, improve lands, etc.; J. M. Hunter, Warwick Villa, Ky.; Ed. H. Schoening, W. E. Rapp, Claude Buckley and Curran Pope, of Louisville, Ky.

Columbia Exploration & Tunnel Co., San Francisco, Cal.; $1,000,000, commencing with $625; to own and otherwise dispose of water rights, power, light, etc.; J. E. Chilton, Wm. C. Leonard, Geo. S. Chilton, John F. Noyes and J. E. Scroggs, of Charleston, W. Va.

Colton Export & Import Co., New York; $250,000, commencing with $10,000; to establish and operate manufactures of all kinds, etc.; Chas. W. Colton, Pelham Manor, N. Y.; M. F. Colton, B. J. Radigan, P. M. Allo and Alexander Richardson, of New York.

St. Louis Gasoline Motor Co., St. Louis, Mo.; $50,000; J. H. Daman, O. L. Anderson, J. D. Fishback and Louis Langan.

Midland Appliance Co., 127 Market St., Camden, N. J.; $100,000; to deal in appliances of all kinds; C. A. Wilson, Howard H. Sypher and C. S. Rushing, Philadelphia; Norman Grey, Woodbury, N. J.; Alexander Duer, Camden.

Lake Michigan & Lake Superior Ship Canal & Dock Co., Lansing, Mich.; commencing with $50,000; to connect Lakes Michigan and Superior by canal, across the counties of Delta, Schoolcraft and Alger; D. C. Dennison, A. H. Parker and C. W. Parker.

Sawyer Mfg. Co., 227 Market St., Camden, N. J.; $50,000, commencing with $30,000; to manufacture gas and electric fixtures, etc.; H. H. Sawyer and H. S. Sawyer, Ridley Park, Pa.; Geo. L. Rowland, Philadelphia, Pa.

Essex Iron Co., Corporation Trust Co.'s Bldg., Jersey City, N. J.; $50,000; mining, smelting, etc., of iron ores; Hugh A. Bayne, 128 East 24th St.; Acton C. Bassett, 11 West 31st St., and Edwin O. Holter, 6 East 9th St., New York; Walter E. Stewart, Jr., 526 West 7th St., Plainfield, N. J.

Mohawk Mining Co., Houghton, Mich.; $2,500,000, commencing with $750,000; Wm. Paine, Boston; Fred Smith, Allouez, Mich.; F. M. Stanton, Houghton; John Stanton and Jos. Gay, of New York.

South American Co., New York; $1,000,000, commencing with $500; to acquire and develop mines in South America; Thos. Holden, Jr., White Plains, N. Y.; Chas. Engle, W. F. Craig, W. A. Kissan and Dewitt H. Lyon, of New York.

Antilles Syndicate of America, New York; $5,000,000, commencing with $1,000; to develop mines, sugar, tobacco and coffee estates; A. J. Weir, H. G. Weil, D. H. Monjo, D. L. Monjo and Lyman Elmore, of New York.

Forge Mining Co., 60 Grand St., Jersey City, N. J.; $20,000, commencing with $3,000; to mine, sell and manufacture iron and other ores; Chas. Seymour, Wm. Fillingham and Kenneth McLaren, of Jersey City.

Gray Eagle Gold Mining Co., New York; $100,000, commencing with $10,000; Wm. O. Saxton, Henry Harms, John Doscher, John Meyer and Christopher Bargrede, of New York.

Tuscarawas Telephone Co., New Philadelphia, O.; $75,000; to operate line between New Philadelphia, Canal Dover, Uhrichsville, Denison, Canton, Carrollton, Cadiz, Cambridge, Coshocton, Millersburg, Wooster and neighboring towns; J. S. Bailey, F. W. Bainbridge, J. W. Yeagley, O. S. Welty and J. H. Mitchell.

Ohio Telephone Co., Columbus, O.; $100,000; to operate a telephone system throughout the state; R. E. Jones, T. A. Simons, David C. Beggs, F. D. Simons, Howard Park, L. D. Myers and William C. Orr.

Riverside Telephone Co., Burlington, N. J.; $15,000; Mitchell B. Perkins, Beverley; Henry V. Massey, Philadelphia; Nathan Haines, J. Howard Pugh, and Geo. C. Gunn, of Burlington.

Columbus Brewing Co., Columbus, O.; $100,000, commencing with $875; Philip A. Effler, Jos. C. Huston, Chas. H. Engle, Louis Goetz and Martin Heinmann, of Columbus, O.

Pacific Automatic Telephone Exchange Co., Seattle, Wash.; to operate telephone and telegraph lines in Washington; E. F. Sweeney, Jas. D. Hoge, Jr., H. C. Henry, E. W. Price, F. D. Schuyler, A. L. Kasson and Frank B. Ingersoll, of Seattle, and R. B. Lehman, Tacoma, Wash.

New Rochelle & Westchester Telephone Co., New Rochelle, N. Y.; $150,000; to operate lines between New Rochelle, New York, Boston, Providence, New Haven, White Plains, Yonkers, Albany, Buffalo, Ogdensburg, and elsewhere; Heinrich Meyer, New York; Geo. W. Sutton and Joseph Claudet, New Rochelle, N. Y.; John H. Scofield, Grand View, N. Y., and others.

Price Rail-Joint Co., Philadelphia, Pa.; $5,000,000, commencing with $100; to manufacture rail-joints, metallic ties, etc.; F. E. Martin, Wm. C. Wolfersberger, Carl de Mail, Edwin G. Evans and D. F. Lightfoot, all of Philadelphia.

American Fireproof Wood Co., Philadelphia, Pa.; $1,000,000; commencing with $700,000; Adam Tindel, Samuel G. Morris and Samuel Huekel, Jr., of Philadelphia, and Robt. H. Groff, Berlin, N. J.

Annapolis Ice Mfg. Co., 310 Market St., Camden, N. J.; $100,000; Robt. J. Berryman, 1009 North 43d St.; W. C. Berryman and Samuel D. Berryman, 3884 Emerald St., Philadelphia, Pa.; Wm. J. Thompson, Jr., Gloucester City, N. J.

Powers & Robinson Foundry & Machine Co., Garwood, N. J.; $100,000; to make boilers, engines, etc.; Jas. T. Powers, Houghton B. Robinson, Roland S. Brotherhood, Chas. G. Robinson, Halcyon M. Close and Fred'k Brotherhood, all of Garwood.

United States Automatic Telephone Co., New York; $1,000,000; Elias E. Ries, Martin Lowenstein, Henry A. J. Wilkens, Israel Steinhart and Henry J. Furling, New York.

Electric Haulage & Mfg. Co., Brazil, Ind.; $10,000; to manufacture motors and machinery; Jas. H. McClelland, Brazil; Edmund C. Morgan, Chas. B. Nibbloch, Chicago.

Kennedy Mfg. Co., Indianapolis, Ind.; $50,000; to manufacture gas meters; J. P. McGeath, John E. and Harry L. Kennedy, E. M. Bose and H. C. Jordan.

Gallipolis Foundry & Machine Co., Gallipolis, O.; $25,000; to manufacture steam, milling and mining machinery; H. R. Bradbury, T. E. Bradbury, C. R. Comer, Hollis C. Johnston.

Manhattan Oil Motor Co., 11½ Beaver St., Newark, N. J.; $1,000,000; to manufacture gasoline and acetylene gas motors, etc.; George T. Harris, The Bourse, Philadelphia; G. Waldron Blake, 11½ Beaver St., Newark, N. J.; Edwin W. Preston, Merchantville, N. J.

Colonial Contract Co., Corporation Trust Co.'s Bldg., Jersey City, N. J.; $100,000; to construct vessels, wharves, etc.; Wm. H. Sackett, Washington, D. C.; Colin McLean, St. George (S. I.), N. Y.; Charles C. Dodge, 1 West 83d St.; J. G. Batterson, Jr., 31 Nassau St., New York; J. L. Cunningham, 145 Fair St., Paterson, N. J.

West Side Hygeia Ice Co., Jersey City, N. J.; $100,000; Joseph H. Furl, Wallace A. Downs and John Furl, Jersey City.

Girard Machine Works, 106 Market St., Camden, N. J.; $50,000; to manufacture engines and machines; Charles A. Gildemeyer, Haddonfield, N. J.; Horace S. Glazier and Jessie L. Doyle, Philadelphia.

Co-operative Telephone Co., Columbus, O; $50,000; to operate local telephone system; George Riddle, Frank H. Howe, Charles A. Spinny, W. B. Childers, W. B. Earnhart, and others.

Fallek Telephone & Automatic Switch Co., San Francisco, Cal.; $100,000, commencing with $500; A. K. Andriano, W. T. Hess, Frederick Hess, Jr., Nathan Fallek, San Francisco; I. Harris, Oakland, Cal.

Richmond & Potomac Construction Co., 259 Washington St., Jersey City, N. J.; $100,000; to construct public works of all kinds; Oliver W. Barnes, Charles H. Cooke, Simeon F. Sullivan, John M. Enright, Jersey City.

Acme Electric Lamp Co., New Brunswick, N. J.; $500,000; to manufacture electric lamps; Louis A. Jackson, Ralph W. Booth, Jr., New Brunswick.

Spring Lake Ice Co., Chicago, Ill.; $100,000; John J. Warde, Miles E. Barry and Levi Wendermuller.

Homestead Telephone Co., Homestead, Pa.; $10,000; G. Gladden, R. Kennedy, J. Purman, D. H. Carus, A. J. Kuhn, W. S. McConegby, H. J. O'Donnell, of Homestead.

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